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Professor Scarfe is Dean, Faculty of Education, The University of British Columbia. He held a similar position at the University of Manitoba. Before coming to North America, he was Head of the Geography Department at the Institute of Education, London University. He attended the UNESCO Seminar on "The Teaching of Geography as a Means of Developing International Understanding" during the summer of 1950 at St. Anne de Bellevue, Canada and prepared *A Handbook of Suggestions on the Teaching of Geography* (A UNESCO publication printed in 1951).

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OUR EDUCATIONAL ENVIRONMENT AND GEOGRAPHY TEACHING*

NEVILLE V. SCARFE
University of British Columbia

IT IS NOW 11 years ago since I first had the opportunity of attending the annual convention of the National Council of Geography Teachers, but in the intervening years it has been my privilege to have the opportunity to speak to this body on more than my fair share of occasions. On each previous occasion I have presented myself to you as a teacher of geography and, more particularly, as a person concerned with the training of geography teachers. Today I want to present myself to you as an administrator in Education.

Few Geographers Become Teachers or Administrators

For some reason or other, few geographers have entered the field of professional education or become administrators of educational systems. Many trained geographers have gone into business and industry, into town and country planning, into state departments of agriculture, into conservation, into foreign service, and insurance. On the other hand there has been a great dearth of fully qualified geographers applying to become teachers in schools and singularly few of those have become principals or administrators or moved into the field of professional education in the universities. If they have been promoted from the classroom situation they have tended to move into training colleges, teachers colleges and universities as professors of geography rather than as professors of education. The best persons in geography have been drawn off into fields other than the administration of education, and so very few geographers have exercised any influence over the educational system, curriculum or programme of the schools of America.

The distressing fact is that geography is still a Cinderella in our school system. It never has been an important, compulsory subject. It has always tended to be easily pushed out by "more important" subjects. Unfortunately we might easily be led to the assumption that there is a direct and very close connection between the absence of geographers in high places in Education and the lowly position that geography takes in the schools. This, however, is not exactly true. There is no necessary connection between the absence of good geographical teaching in schools and the absence of administrators with geographical training. In stating this I want to emphasize that there is no direct cause and effect relationship, nor is geography excluded from the curriculum of our schools by any malicious or deliberate intent on the part of administrators to exercise some spite against this particular subject. Most administrators do what they think is in the best interests of the children as a whole, and therefore the problem today is to find out why administrators think this way.

* This article was presented as a paper at the 45th Annual Meeting of the National Council for Geographic Education held in Detroit in November, 1959.

What causes administrators to act in the way they do? Why do they think geography is not in the best interests of children? If this can be discovered, maybe those causes can be modified so that there is a more sympathetic attitude towards the subject and better understanding of the values that it can bring to the children of the nation.

The Fault Lies with Geographers

The fault lies mainly with the geographers themselves. They have not encouraged enough of their geography graduates to enter the field of teaching and education. Particularly they have not persuaded enough of the best geography graduates to enter the teaching profession. Secondly, they have not taken the trouble to inform the public or the administrators about geography—its value, its functions, and methods of teaching. This, I believe is the first occasion when you have invited administrators to your deliberations and asked them to come and discuss the problem with you. Thirdly, geographers have not written enough articles in educational magazines and learned journals about the value of geography in education. Instead they have confined their contributions to the education of the already converted. Fourthly, teachers are still teaching geography badly in schools. It used to be the worst taught subject and those administrators who manage education nowadays were, of course, brought up in the ancient tradition of a terribly boring list of capes and bays, rivers, mountains and chief products, and this they rightly judged as a useless kind of education. They have little reason to believe it has changed.

Alternatives to Geography

There have, of course, been difficulties and adverse tendencies in educational thinking but opposition has not necessarily been against geography as we now understand it; it has been against the kind of geography teaching that went on in the past. Some administrators have, in fact, tried to rescue geography by various means. Thus many school scientists include items of information that are called geography under the title "General Science." Similarly advocates of Social Studies include items that are geographical under that heading. Unfortunately little geography is actually taught that way. The inclusion of locational facts and mapped items does not constitute geography because the purposes are different. The main purpose of general science is to teach science, i.e., the understanding of the laws of nature, or the influence of one set of physical conditions on another set of physical or natural conditions. General science is not primarily concerned with the influence of physical phenomena on human thought, action, and ways of life. Such a study is peripheral to general science. In social studies the main objective is the understanding of society or, put in another way, is sociologically oriented and aimed. It concerns primarily the influence of one kind of human action or thought on another type of human action or thought. The modification of the physical environment by human action is peripheral to this and is not its main purpose. Some aspects of geography are, therefore, peripherally and incidentally treated in social studies, and some aspects are peripherally and incidentally treated in general science. Neither of them have as their main objective and prime purpose the understanding of the interaction between human beings and the physical environment. Therefore, the fact that there is a most interesting and intricate relationship between human life, thought and action on the one hand and the physical environment in which that thought and action takes place on the other, is often lost sight of, particularly in North America. Presently I will come back to this point

and explain why Americans rather than Europeans neglect geography and degrade the importance of the influence which physical environmental conditions have on human thought, action and life. The point here is to stress that attempts to teach geography peripherally have failed, because they lacked purpose and because they divorced the two essential elements of geography.

Why Are Subject Disciplines Necessary?

Let us return for a moment to the main theme of the argument. Why have some geographers tried to jump onto the band-wagon of general science or social studies rather than advocate the teaching of the supreme integrating subject—Geography? If integration of knowledge is good, then it is certainly good to see how nature and man are closely related and interact, and that is Geography. It is not conveniently dealt with as part of some other subject, even though peripherally dealt with by almost all subjects. The purpose of dividing all knowledge into subjects is not to divide whole knowledge into odd bits of isolated content but is to look at whole knowledge from several precise and disciplined points of view. Subjects are mainly devised for clear thinking and intellectual training. Moreover they are never satisfactorily defined as bodies of content. They are defined as points of view or as disciplines, or as ways of interpreting total knowledge, or as methods of putting emphasis on one or other of the major influences that help us understand human life and action on the globe.

Geographers and Administrators Can Be Mutually Helpful

Geography, therefore, has something to teach all administrators about education, let alone about geography. Equally true is it to say that administrators have something very worth while to teach geographers about geography as well as about how to teach it. Geographers can teach administrators what is meant by an efficient system of integrating knowledge and of co-ordinating thinking. The trouble with general science and with social studies is that they are vague and woolly and have no clear, precise purpose. History, Geography, Sociology, Physics, Chemistry and Biology have precise purposes, disciplines and points of view and, as such, can be taught clearly and become fine intellectual training. This is what modern geography has to offer—a precise way of integrating knowledge from a disciplined point of view. On the other hand, no school administrator is going to accept an outmoded subject that seems to be a great mass of memorized names of places or products. They are not going to advocate a subject which is vague and woolly or where sketch maps have no purpose and seem like busy work only. Administrators will certainly not recommend a subject that is unscientific or simply a verbalistic generality.

Unscientific Geography Destroys Confidence

I would like to spend a few minutes pointing out the unscientific nature of some geography in our text books and in our schools, in order to explain why administrators are not able to accept some of the present day geography as worthy of inclusion in a proper educational system. Many geography text books still erroneously start their discussion of Geography with the world as a whole or world climates as a whole, and some still start with the old world wind system diagram. All modern meterology and climate depend on a knowledge of air mass movements which cause differential pressure systems. Although air masses move in certain ways the winds within those air masses may move in quite a number of different directions. The world wind system diagrams are not only obsolete but

definitely erroneous and certainly extremely misleading. Furthermore, psychologically it is well known that children do not learn that way. They cannot start with a large area like the world, or with generalizations about the world, and hope to work out the geography from a number of first principles or fundamental rules or laws. This is not good education; in fact, it is the reverse of good education.

All good educational procedures start from particular details and work towards generalizations and conclusions. All good education starts from the simple and the known—the local region, the local province—and uses small samples of other large areas for comparison with the known area. Children proceed from the concrete to the abstract; they learn first through contact with the real things, either in outdoor excursions or by studying photographs and specimens brought in from outside. The symbolism of words and maps are but second-hand information.

All geographers should know that it is impossible to work out geography from first principles because there are no first principles in the same sense as there are in the physical sciences. Moreover, in the teaching of physical sciences, teachers do not start from first principles. They start by observing nature in the raw and eventually derive laws and principles at the end. That is to say, all good science teaching starts inductively and is able to use deductive processes only after the inductive techniques have been mastered and the laws understood. Human beings cannot apply what they do not understand. The only way to understand science is to proceed inductively from particulars to generalizations.

In the physical sciences, the establishment of laws or first principles enables the scientist to predict with guaranteed accuracy exactly what will happen under certain given stimuli or action in nature. According to Boyles' law it is possible to predict what will hapen to the volume when the pressure and temperature of a gas are varied. Accurate prediction is possible in physical science, but geography has no such predictive ability, and it is wrong to pretend that it has. It is not possible to work out what people will do for a living in any known area of the world, nor how they will live, nor what they will think from any first principles in geography. The wind direction may be known, so may the latitude, the distance from the sea, the altitude, and the rock structure, as well as much other data, but even then no-one can predict what people will do in a particular area. Human beings are unpredictable agents with freedom of choice. It may be that the possible choices are restricted, but there are a sufficient number of choices to make it quite clear that we in Geography cannot predict with any degree of accuracy. Some may think it worthwhile to guess or to analyze the possible choices. This may be interesting but normally it is a worthless exercise. It is so much easier and simpler, and so much more scientific, so much more educational, to start with what actually is happening in any area on the earth. Put in other words, it is always much simpler, more worthwhile, more interesting, more educational to start with effects, with human action, and then work toward possible causes, influences, relationships and interactions, so that the effects or the human actions are understood and seen to be sensibly related to the physical environment.

Physical conditions never precisely and scientifically cause people to do certain things. They tend to make certain human choices reasonably sensible. Isaiah Bowman said all this many years ago in his famous book "Geography in Relation to the Social Sciences." He said that it is not necessary to have any strict cause and effect relationship to make geogra-

phy worthwhile and interesting. The fact that there are discoverable and interesting relationships between human beings and their environment is a sufficient justification for studying geography. Only by studying geography can some of the actions and some of the ways of life of people on the globe be understood. There is a most intricate, complicated, and thereby interesting and worthwhile relationship between human beings, their actions and the physical environment in which they live. This is an important study, but it can never be worthwhile education unless taught properly in accordance with the normal laws of learning and precise knowledge of the psychological processes by which children comprehend the things around them.

Systematic Geography Is Unsuited to Schools

Let me explain all this in another way. Geographers have tried to systematize geography too early and too rigidly in our schools. They do not present the subject as one which children may observe, describe, analyze, and correlate. They are too eager to get to conclusions, generalizations, laws and principles and then apply them. They are too eager to divide the world into regions and to justify the dividing lines. They are too eager to pick out the similarities between regions rather than bear in mind that their differences and distinctive characteristics are most important. Because the world is so big and so full of variety, it is difficult to know descriptively and effectively what the great world looks like and what it feels like to live and work in its various areas; therefore teachers jump too soon to generalizations, laws and rules which are scientifically unjustifiable. They are encouraged by text books which make highly questionable and often nonsensical statements about the world and its people.

Vague Generalizations Will Not Do

In order to justify this statement I am going to give you a number of quotations which I have found in recently published geography books and which are certainly not geographical nor justifiably based on geographical information. Many of these statements sound uncomfortably like the emotional utterings of political charlatans. Other statements belong more precisely to sociology and to psychology. Geographers nowadays seem to fall too readily into the trap of thinking that their subject allows them to make judgments about all sorts of things in life. If the subject is to be respected in school or university, it must keep itself rather strictly to its own discipline and to its own purposes and not make inane generalities about sociological, political and religious problems. The following, then, are selected quotations illustrating what I mean and demonstrating why administrators may be justified in thinking the subject has no special point of view of its own and is concerned only with unscientific generalities:

"Accompanying these changes, one of the world's most comprehensive systems of social security has been instituted (security "from the cradle to the grave"), including various forms of state aid for the individual and compulsory insurance, such as health insurance. Strenuous efforts toward rehabilitation of the economy, security for the individual, and continued military strength have necessitated an extremely high level of taxation."

"Where the climate limits the available amount of moisture, both for plants and for man's direct uses, human activity is concentrated near the places where the largest amount of moisture can be assured."

"Political relations are troubled, however, by antagonisms of long standing. The countries of this group have fought each other repeatedly in past wars. In the twentieth century the principal antagonists have been Germany and France, but only Switzerland among the other sovereign countries has escaped embroilment in the quarrels and conflicts of these larger nations. Avoiding further strife is today a major preoccupation of these countries."

"Tasmania has a climate similar to that of Devon and Cornwall, in England. Since both of these areas are rugged upland regions, their occupations are similar also."

"This means that in most parts of the world by far the largest occupational group of people is inevitably doomed to poverty so long as the present system prevails."

Geography in Europe and U.S.A.

Now I will attempt to explain why Americans think of geography in a somewhat different way from Europeans. The reason why I am doing this is because it offers some clue to why, in Europe, geography is generally well taught and universally accepted as a necessary subject in school and why in America this is not the case.

In Europe the influence of environment on settlement, houses, patterns of agriculture, roads, railways, and the like, is very obvious. Field patterns often follow geomorphological lines, and ancient beach lines are visible as field boundaries. Lines of springs at the foot of limestone escarpments have developed a series of nucleated villages. Roads tend to follow contour lines. Triangular villages are situated neatly on deltaic fans. The human or the cultural landscape is blended in a most intricately conforming way into the details of the physical environment. Men have picked out the significant features of micro-climate and minute changes in terrain. To a geographer, therefore, there is a beautiful, and I use this word deliberately, correlation between man and the environment. Europe is a land of tremendously intricate variety. Changes in small areas and in short distances are the common characteristic.

In contrast, America is built on the grand scale with huge plains and tremendously uniform conditions over large areas. Moreover, the settlement of America was a planned affair after surveys had been made. For some reason or other, it was thought best to build roads either east-west or north-south regardless of the terrain, regardless of any climatic variety. Only when very marked physical conditions cause the divergence from the strict grid pattern are roads found that are not north-south or east-west. Farms were marked out in great quarter- or full-sections. All of a quarter-section was cleared, ploughed and sowed with wheat, regardless of the fact that there might have been two entirely different types of soil within that area. A completely new mechanically human pattern was superimposed almost without regard to the physical environment on the landscape of America. In every sense of the term, men seemed to conquer a continent and to impose their will on it. If there were mountains they could be moved, if there were lakes they could be drained, if there were rivers they could be diverted. Man seemed to be in control of the environment and placed cities in the most unsuitable positions simply where crossroads occurred, despite the swamp nature of the junction. Men were thought to be masters except, of course, in the desert or when nature fought back and soil was eroded in a most appalling fashion. The result is that in North America there is less neat or beautiful correlation in detail between human activity and the physical environment, but it is gradually becoming so.

There are, of course, general statements to be made about the corn belt or the cotton belt, and everywhere there are some obvious adjustments to the environment. Nevertheless, the spirit, the outlook, of the American is that of man controlling the environment. The whim of one man, the religion of another, the social customs of a third, have seemed to be pre-eminent in determining what happened, and so the great emphasis on the sociological, the historical, or the social studies outlook has come about with its tendency to lack respect for the natural environment and simply to think of it as a nuisance to be overcome.

In Europe, on the other hand, the influence of the natural environment is obvious, nature is significant and science is

important and yet nobody goes to the extreme of saying that science controls or nature determines what men do. Instead they teach geography whereas we teach social studies. In Europe the influence of the environment is thought of as very important.

Positive Suggestions

It would be wrong to finish this paper without presenting a more positive approach to the problem of geography teaching in schools. Most geographers in the world would like to see their subject taught more effectively and more efficiently in school. They feel that it is sufficiently worthwhile as a subject and as an educational medium for it to be taught continuously in each grade from Grade 4 through Grade 12 each year as a separate subject. They would emphasize the importance of observational, descriptive and pictorial geography in the early years when emphasis is placed on studying the home area and the home land as well as the geography of everyday things and the importance of climate in influencing the food, clothing and shelter of people in various home regions all over the world. In other words, the early years are concerned with the "how" of geography.

In the junior high years most geographers would like to see regional geography in which the emphasis is on some relational thinking or an attempt to see how man's activities are related to the physical environment in specially selected sample areas in each continent of the world. No kind of world or systematic geography can ever be attempted without six years of previously intensive study of regions and areas. It is not, therefore, until the senior high school that the "why" of geography is dealt with and attempts made to see patterns, conclusions and principles. This is the stage when some geographers would like to deal with physical geography or economic geography as a separate discussion. Even at the senior high school and university stage there must, however, be a great deal of observation, description and pictorial study in geography. Furthermore, there must always be the approach from the sample small area to the larger concept, or from the particular to the general, from the known to the unknown inductively. Nine years of good, concentrated study of geography under the guidance of a dedicated teacher seem to be a necessary pre-requisite for a geography course at a university.

Geography Must Be Intellectually Challenging

Summarizing all this, it is clear that modern geographers see their subject as an arduous study, stimulating the mind and challenging the intellect. Nevertheless it is important that they go out of their way to demonstrate publicly that it is a challenging, intellectually stimulating and rigorous study. Unless administrators of school systems are convinced that geography is clearly a subject which trains future citizens to think for themselves, it is doubtful whether they will be willing to include it as a necessary part of the curriculum.

Many geographers, of course, have made the mistake of supposing that the only kind of thinking is deductive thinking. On other occasions they seem to have equated thinking with abstract reasoning. The facts are, of course, that almost all the great thinking in the world is inductive. Very little thinking is solely in the abstract. Most thinking depends on accumulated knowledge, information and experiences. Thinking is a habit of mind. It is a questioning and critical outlook or attitude, and it is a willingness to try to see the relatedness of isolated facts. Almost all thinking begins in a practical, concrete situation. It ends up often in an abstract formation of an idea or a law. In the teaching of geog-

raphy, the development of thoughtful, questioning attitudes is as much dependent on how the subject is taught as on what is taught. But geographers must be convinced that thinking is the essential ingredient of all educational processes. It must, in fact, be the prime process.

Geography Must Be of Educational Value

The success of thinking, of course, depends to some extent on memory and on the alertness of the mind to observe and to attend to the topic in hand. It has to be remembered, however, that accumulation of data, which is called memory, and even thinking about the data in order to arrive at conclusions and relationships, is not the end product of education. The purpose of school, and the thinking associated with it, is to enable future citizens to apply their knowledge, thinking, ideas and skills to the business of living. In particular, educational thinking and knowledge has to be used by the individual to make him or her a better person, or a "more cultured" person, or a person whose attitudes and behavior are civilized and responsible. Geography, therefore, is not successfully taught unless it affects the outlooks, the attitudes and the behavior of future citizens and helps them develop mature judgment and fine sensitivity in dealing with the problems facing the world.

Geography Must Have Citizenship Value

A well-trained geographer must be able to read a newspaper intelligently, critically and thoughtfully. He must be able to vote wisely and contribute sensibly to community affairs. Above all he must have what is called international understanding. These two long words are often bandied about as if they were meaningless, but in this day and age behind those two words lies the future security of the whole human race. As citizens of the world, and no-one can be less than that nowadays, it is necessary to know precisely and accurately what it looks like and feels like to live and work in almost every other large section of the world as well as our own. It is no longer possible to go along vaguely knowing that there are some small countries somewhere else in the world where people live, some of them, we believe, starving. All should know accurately and in some detail the conditions of this great word stage so that they can think sanely and sensibly about political and social conditions in every corner of the world. Each must help the government make wise decisions so that peace and goodwill remain over the earth.

It is not, however, solely on the international scene that wise decisions must be made. Each citizen lives in a small locality in a nation as well as in the world, and geography will help him make wise and sensible decisions about local problems as well as about national and international problems. Geography should help an individual, particularly in his citizenship duties and in his work activities, for geography is of vocational value as well as an essential ingredient in all good citizenship. The important point to remember is that all these things are done if Geography is clearly, accurately and boldly defined as a discipline and not part of someone else's bandwagon.

Unbalanced Emphasis on Curriculum Rather Than Method

One mistake that some Americans have made is to suppose that because geography or history or physics were useless subjects in the past there is something wrong with the subject rather than with the people who taught them and the methods they used. United States educators have experimented in extraordinarily clever ways with curricula in schools. They have modified this, that or the other and they have been encouraged

in this activity by the text book writers who, seeking to make money, have tried to jump as quickly as possible on any new-fangled bandwagon. Text books have been written to fit in with a prescribed curriculum by dedicated seekers after dollars rather than by those who were dedicated educators. The result is that the new types of curricula are taught in the same dull, deadly way as the original physics or geography or history were taught. Children are still memorizing the words in the new text books and regurgitating them for miserable examinations. Furthermore, almost all text books have attempted to be labor-saving devices and have tried to make everything in the text easy to understand, easy to learn, easy to memorize. They have devised exercises and suggested activities that will make life easy. They have done their best, therefore, to save the pupil the effort of thinking things out for himself. All the thinking, all the correlation and all the systematizing are done, and, therefore, all the valuable education is avoided. The result is that teachers are training a generation of young people who are not required to think for themselves but are required to accept in easy doses the thinking, the ideas, the concepts of other people.

The mistake, therefore, is that Americans have not concentrated on the important things in teaching, that is on training first quality teachers who know how to stimulate thinking in clever ways. Instead there are teachers in the classroom who understand the curriculum and follow it meticulously. They know the subject they are teaching, if a subject can be defined as content, but they rarely know why they are teaching it or what good it is to teach that particular subject, or what educational function is served. More particularly, they do not know how to use their subject as a means of stimulating thought and of challenging the grey matter of their young charges. If they are geographers, they have often learned their geography from a text book, with secondhand thinking, secondhand ideas and secondhand conclusions. They think of the subject as a mass of content and so they grasp at some unscientific, pseudo-systematic generalizations as a relief from having to memorize too much detail, but they rarely understand the spirit and purpose of geography or its value to future citizens. Nor do they have any idea how to teach it so that it becomes a valuable citizenship subject which will modify the behavior, the outlook and the wisdom of future citizens.

As geographers, therefore, you have to make clear to all the administrators in education the value, the function and the purpose of geography in school, and you have to set out clearly what should be taught and, more particularly, how it should be taught.

Geography Has Special Values for Modern Society

In society nowadays people are claiming that not enough science is taught. On the other hand they argue that scientific advances have made far greater strides than have the advances in knowledge of how to manage the social and political affairs of the world. The harnessing of natural forces has far outstripped our ability to understand and use human nature. As Zimmerman said over 30 years ago "Societal arts are always lagging behind," and so, while we are being urged to teach more science in order to keep up with the Russians, we are at the same time being urged by the great thinkers of our nation to develop the humanities, the social sciences, the things of the human spirit as well as the material things of life. There is coming to be a great dichotomy and argument between the arts and the sciences, between the pure and the applied studies, and that is a great pity.

May I suggest to geographers and to administrators of education that there is a way of resolving these conflicts. It is to bring these social sciences and natural sciences more closely together. It must be shown how they are interdependent and how they mutually support one another. The things of nature must be related to the things of man. This study, as you know, is essentially the function of geography. Its purpose is to understand how human life and activity all over the globe are closely, intricately and intimately related to the natural conditions of that world. It is increasingly necessary to study the essential relationships between man and the environment, between social sciences and natural sciences. The geographer's special business is to develop and co-ordinate that very relationship.

Geography provides the broad, co-ordinated and integrated view of the world and its problems which no other subject can provide, but it can provide it only if it is soundly and solidly based on diligent, rigorous, detailed study of the world in its regional and separate "personalities," if I may use the famous term of Vidal de la Blache, a term which has since been translated by Preston James and Hartshorne into "regional differentiation." The only difference, of course, is that the French geographer had a more positive concern with the major characteristics of each separate region, whereas James and Hartshorne are more concerned with the negative separation of regions. In other words, they seem to be more concerned with the boundaries than with internal cohesion.

Be that as it may, the important thing is that the great geographers of the world have similar concepts of the purpose, the value, and the function of the subject as well as an intricate and very detailed knowledge of the different regions of the world. It is on the basis of their detailed information that they are able to generalize and discriminate wisely.

The educational climate of America is still not very favorable to the teaching of Geography as a separate discipline in all school grades. The fault is partly the warm, lethargic, confusing tropical winds of social studies and general science. Some sharp, brisk, invigorating, northerly breezes of disciplined subjects are needed. Geographers, however, need not be controlled by this environment. They are men of free choice. Like true Americans they should start modifying the environment by cultivating the garden of Geography more efficiently and by making the fruits of their labor a more attractive and desirable commodity. Fortunately there is evidence of an awakening interest in geography.

THE EARLY SIBERIAN MIGRATION*

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THE SIBERIAN migration of the pre-railway period[1] was one of the world's largest movements of people. This famous trek across thousands of miles was both hampered and aided by the state. The impact of this movement effectively Russianized Siberia and initiated much of her economic and cultural foundations.

The roots of the Siberian migration and settlement are buried deep in Mother Russia. Near the end of the

* Published with permission of the Director, Geographical Branch, Department of Mines and Technical Surveys, Ottawa, Canada.

[1] In 1896 the western section of the Trans-Siberian Railroad was opened.

sixteenth century, Russian fur traders, adventurers, and explorers spread into Siberia seeking riches, glory, and adventure. Soon the Moscovy state established a number of forts which served as focal points of administration and settlement. Government officials and soldier-colonists were sent to these outposts as well as impressed carpenters and peasants. The latter two groups provided the forts with much needed foodstuffs and building skills. However, at this time the major economic attraction of Siberia was her furs which provided merchants with a handsome profit and the state with an appreciable amount of revenue.

The Attraction of Siberia

In the nineteenth century the major economic attraction of Siberia was her fertile land. Peasants, who were the chief migrants, regarded the broad expanses of Siberia as a place of escape from feudal and subsistent agriculture.

Siberia, a vast land of about 4.9 million square miles, contains three major natural regions: the tundra, forest, and steppe regions. Only a small portion of these regions is blessed with suitable conditions for agriculture. The tundra zone, the northern most of the natural areas, is an unfavorable zone for agriculture. Its short growing season will not allow grains to ripen; and only the hardiest of the root crops can be produced with limited success. With the exception of a few exiles, no migrants entered this zone.

The forest zone, situated between the tundra of the north and the steppe of the south, is better suited to agriculture than the tundra area. Even so, the northern forest area, or taiga, was not particularly appealing to the homesteading peasants, since its podzolic soils were not especially fertile and the land was difficult to clear for farming.

The southern portion of the forest, particularly the mixed forest and forest-steppe areas, attracted many peasants. The land proved fertile and the settlements prospered. Some peasants secured land with both forest and meadow in order to have the advantage of timber, which provided building materials and fuel, and meadows, which, once the tough sod was broken, were prepared for cultivation.

The Siberian steppe drew many migrants because of its highly fertile soil and because the European peasants were familiar with the steppe environment. However, dry-year crop failures tended to restrict settlement to the northern or long grass portions of the steppe.

Thus the main stream of colonists entered southern Siberia—a land of mixed forests, forest-steppe and steppe. Only adventurers, fur traders, gold miners and exiles ventured into the northern woods and tundra.

Government Policy

However, these migrants presented a disturbing problem to the regime. Although the state desired to settle Siberia, it feared that a large migration would create an independent peasant society, which would result in a loss of military personnel and tax revenue as well as a serious labor shortage in European Russia.

Ideally, the state could form and direct the migration, but through its own ineptness, it hardly influenced the migration. In fact until 1889 the government, torn between assisting and forbidding the movement, never formed a definite policy. A pattern was established whereby state policy moved slowly and grudgingly behind reality. Even though the gap between state policy and legal migration sometimes narrowed, illegal colonization never ceased.

One of the first important acts affecting migration was the Emancipation Act

of 1861, which permitted peasants to move from one commune to another. For legal migration, a certificate of discharge was required, which released the applicant from his obligations to his old commune and allowed him to join his new one. The old commune would release the prospective migrant if the following conditions were met:[2]

(1) that the prospective migrant was not currently liable for military service;
(2) that he was not in arrears in state and communal levies;
(3) that he was to have no private obligations recorded against him at the township office;
(4) that he was to pay his taxes through January 1 of the following year; and
(5) that he was to present in advance a certificate of admission from the commune to which he planned to migrate.

As considerable time and effort was necessary to fill these requirements, few migrants complied and illegal migration continued. Furthermore, these restrictions prevented an escape from the quasi-feudalistic communes.

In 1881 temporary migration rules, stating the government's approval of the concept of peasant migration to Siberia, were established. They were not published, however, as the state feared a mass migration might result.

Clearly, the government's attitude was one of indecision. On the one hand the government secretly sanctioned migration, while on the other hand it placed prohibitive requirements before the migrants. The fundamental reason for this indecision was because the state was torn between fulfilling the landowner's demands to hold the peasants to estates and the desire of the state to colonize new lands.

The first favorable state migration program was issued in 1889. Briefly, this migration law placed the responsibility of migration upon two government agencies, the Interior and State Domains. These agencies, at their discretion, granted migration visas. This same law granted state aid at the rate of 30 rubles per family, or, in the case of particularly needy families, 100 rubles per family. These loans were to be repaid without interest over a period of ten years. The government provided free lumber and seed grain to settlers.

Even this program did not attract prospective migrants since it failed to alleviate the problem of obtaining state permission. In addition the peasants, traditionally suspicious of any government aid, were hoping to sever or at least decrease their connections with Tsarism by migrating. For these reasons the state program, which was designed to select settlers and to direct their migration and settlement, failed miserably.

Number and Type of Migrants

During the nineteenth century nearly 3 million settlers entered Siberia. From year to year this movement varied in number and composition. The annual migration ranged from a few thousand to hundreds of thousands, and the type of migrant varied from serfs and exiles to priests, but the peasant group easily outnumbered the rest.

Evidence of the impact of the migration is recorded in Siberia's population growth. During the nineteenth century, the population of Siberia multiplied more than four times (from 1.1 to 4.7 million) and most of this increase is directly attributable to the 2.7 million migrants. Hence, by the end of the nineteenth century, migration had trans-

[2] D. W. Treadgold, *The Great Siberian Migration*, Princeton University Press, Princeton, 1957, 67-68.

formed the Siberian wilderness into an important region of Russian population.[3]

From 1801 to 1900, 1.8 million peasants or migrants settled in Siberia.[4] In addition nearly a million Russians or 35 per cent of the migrants were exiled to Siberia. During the individual decades of the nineteenth century the peasant-exile ratio varied greatly. For instance, during the 1870s the peasant portion accounted for slightly less than 30 per cent, whereas the exile portion accounted for more than 70 per cent. During the 1880s, however, the situation was reversed. The volume of the migration increased considerably towards the end of the century because of the growth in numbers of peasant migrants, who averaged only 6.8 thousand annually from 1871 to 1880 but who expanded to 107.8 thousand annually from 1891 to 1900.

How can this trend be explained? Essentially, three forces were at work shaping the size of the migration. First of all, migration restrictions were more stringent in the early part of the nineteenth century than in the latter part. Next, after the construction of the western section of the Trans-Siberian Railroad (1896), the journey was considerably quicker and easier. Finally, Siberia's commercial economy was growing rapidly, allowing it to absorb large numbers of colonists. For these reasons, the annual pre-1896 peasant migration was relatively small compared to the annual post-1896 migration.

How many of the Siberian settlers were former serfs is not known, but no doubt they formed a large segment for, of all people, they stood to gain the most from migration. Since a survey of the serf-peasant population reveals that in 1861 nearly 50 per cent of the peasant population were serfs, and since after Emancipation (1861) the economic position of these former serfs became worse,[6] it seems probable that a considerable number of these former serfs joined the post-1861 trek.

TABLE I

RUSSIAN MIGRANTS REPORTED AS SETTLING IN ASIATIC RUSSIA (1801-1900)[5]

(thousands)

	Peasants	Prisoners	Total	Annual Average
1801-50	125	250	375	8
1851-60	91	100	191	19
1861-70	114	140	254	25
1871-80	68	180	248	25
1881-90	279	140	419	42
1891-00	1078	130	1208	111
Total	1755	940	2695	

Place of Origin

Most of the Siberian migration originated in the central region and the middle Volga region. The provinces of Kursk, Tambov, and Voronezh formed the chief migration areas in the central region, whereas the provinces of Perm, Vyatka, and Samara supplied the bulk

[3] The native population seems to have fluctuated between 100,000 and 200,000. In 1850, the native population totalled about 174,000. *Bol'shaya Sovetskaya Entsiklopediya,* (Moskva: Gosudarstvennoe nauchnoe izdatel'stvo, 1955), Tom 38, p. 656.

[4] It should be noted that the eastern parts of Siberia were settled at a later date than the western parts. For instance, the first large group of settlers entered the black earth area of the Pravoberjh'e district of the Minusinsk basin, Krasnoyarsk Krai, as late as the 1860s. D. A. Golovkin, "Raiony Krainego Iuga Krasnoyarskogo Kraya i Perspektivy ikh Khozyaistvennogo Osvoeniya," *Izvestiya Akademii Nauk SSSR, Seriya Geograficheskaya,* 1959, No. 4, p. 100.

[5] F. Lorimer, *The Population of the Soviet Union,* Princeton University Press, Princeton, 1946, p. 28.

[6] For example, comparing the pre-Emanicipation serf holdings to post-Emancipation holdings, former serfs of the non-black soil regions suffered a 10 per cent reduction in land holdings, while the former serfs of the black soil provinces suffered a 26 per cent reduction in land holdings. P. I. Lyashchenko, *History of the National Economy of Russia,* The Macmillan Co., New York, 1949, p. 384.

of the migrants from the middle Volga region.[7]

The middle Volga region, nearly a thousand miles closer to the Siberian frontier than the central region, contributed greatly to the volume of the migration. Since the peasant closest to the frontier had the shortest journey, he would be more easily attracted to Siberian migration. However, since the central region supplied the majority of the Siberian colonists, some factors obviously overcame the disadvantage of its great distance from the new lands. These factors, such as land scarcity, stemmed from the severely depressed agriculture of the central region. For example, prior to Emancipation (1861), the central region had the greatest density of population and the greatest proportion of serfs. In the immediate post-Emancipation era, this region had the distinction of receiving the lowest allotments per serf and of having the highest population growth rate. By the late 1870s the population had increased by 6 million over the 1858 figure. This population rise led to additional pressures on the land causing a strain on the already low fertility of the soil. In short, conditions that were already grim were becoming worse.

Several million workers from the central provinces applied for passports for outside agricultural work, most of which was located in the Black Sea steppe region. However, as this steppe area's population increased along with greater mechanization, the demand for transient labor diminished. With this last avenue of support evaporating, many peasants turned to Siberia.

Rural life in the middle Volga area was not so depressed as in the central region. Nevertheless this region ranked second in the number of Siberian migrants. For instance, the middle Volga region provided some 21.5 per cent of the migrants during a famine period from 1887 to 1894.

[7] The towns of Kursk, Tambov, Voronezh, Perm, Vyatka and Samara are located on the map.

The Routes

The problem of travelling to Siberia was difficult. This migration was not difficult in the sense of native attacks as was the case of the Oregon Trail settlers, but rather in the sense of state interference such as forcing serf migrants to return to their landlord or refusing to allow settlers into certain regions. At the same time, the migration was as difficult as any trek across thousands of miles with horse-drawn wagons and man-drawn carts.

The routes followed the Ural passes, the river systems and the Great Siberian Road (Fig. 1). By the 1890s two routes monopolized the settlement traffic. The southern route twisted through the Ural Mountains between Ufa and Chelyabinsk. The village of Ufa, situated on a tributary of the mighty Volga River, was often reached by boat. From Ufa, a hike across the hill-like Ural Mountains ended at the town of Chelyabinsk. From this center, the settlers gained access to the Ob River system, which carried its passengers to all parts of Western Siberia. Upon leaving the Ob system, the colonists would journey to their particular destination. The few who went beyond the lands of Western Siberia utilized the other rivers of Siberia, such as the Yenesei, Lena and Amur.

The second route crossed the Ural Mountains between Perm (now called Molotov) and Tyumen. The Volga River system provided the main link to the edge of the Ural Mountains. After the settlers travelled over the mountains, they ferried along the Ob River system and journeyed along the Great Siberian Road. Following the building of the Perm-Tyumen railroad in the early 1880s, the traffic on this route rapidly surpassed

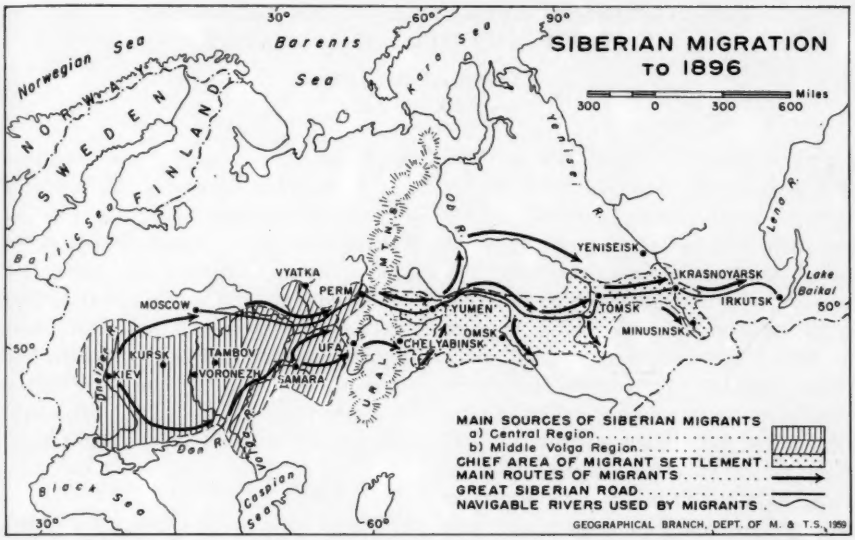

FIG. 1. This map was compiled from the following sources: "Rasshisenie Russkogo Gosudarstva v XVI-XVII vv," *Atlas Istorii,* Chast' I, (Moskva: Glavnoe upravlenie geodezii i kartografii, 1950), pp. 23-24; "Sibir' v XVII veke," *Atlas Istorii,* Chast' II, p. 8; and D. W. Treadgold, *The Great Siberian Migration* (Princeton: Princeton University Press, 1957), p. 89.

the volume of that on the southern route. For example, in the years 1888 and 1891, between 70 and 80 per cent of the settlers travelled by train, and from 1892 to 1894, 85 per cent of the settlers travelled by train.[8]

Place of Settlement

Most of the settlers carved their new farms from the long grass and mixed forest areas of Western Siberia. Few migrants pushed beyond the Yenesei River because fertile land was available in Western Siberia. Several forts blossomed into towns, heralding urban growth.

The rich mineral deposits and fertile farm lands of Tomsk province lured the greatest number of settlers. In the last 40 years of the pre-railroad migration, the population of Tomsk province expanded by more than two and one half times. By 1897 Tomsk province contained nearly 40 per cent or 1.8 million of Siberia's population.[9]

At the end of the nineteenth century, the population pattern of Siberia resembled a huge wedge. The base of this narrow wedge extended along the Urals from approximately Tyumen to Chelyabinsk. The apex reached the Yenisei River near the town of Krasnoyarsk. This wedge of population closely correlates itself with the southern forest, particularly the mixed forest and forest steppe areas, and the tall grass steppe. A few isolated pockets of settlement extended beyond this wedge. Thus, within 100 years Siberia was transformed from a virtual wilderness into an important agrarian settlement of nearly 5 million Russians.

[8] D. W. Treadgold, *Ibid.*, pp. 95-96; See G. N. Cherdantsev, N. P. Nikitin, and B. A. Tumykhin, *Ekonomicheskaya Geografiya SSSR,* Vol. I, (Moskva: Gosudarstvennoe uchebno pedagogicheskoe izdatelstvo ministerstva prosveshcheniya RSFSR, 1956), pp. 326 and 361-363 for a summary of routes, particularly railroads in the Urals and Western Siberia.

[9] C. Krypton, *The Northern Sea Route: Its Place in Russian Economic History Before 1917,* Edwards Brothers, Ann Arbor, 1953, p. 147.

PARTITIONING CYPRUS: A CLASS EXERCISE IN APPLIED POLITICAL GEOGRAPHY

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WHAT practical work do political geographers do? *"American Geography; Inventory and Prospect"*[1] reports that political geographers' practical work (called Applied Political Geography) has been entirely concerned with boundaries. In the real world with which Applied Political Geography is concerned, politicians establish the principles of new boundaries at conference tables. Sometimes these politicians consult geographers, as for example during and after World War I, but this is generally rare. After politicians have established the principles of new boundaries, geographers or persons with geographical training have to define the details, for example, which of several alternate ridges a boundary is to follow. This process of definition can take place on detailed maps or in the field and is followed by demarcation on the ground. Defining details of a boundary, both on maps and in the field, requires intensive "application of geographical knowledge to specific and contemporary political problems."[2] Class exercises in boundary definition therefore permit application of the students' geographical knowledge to political problems. Thus two subjects, geography and political science (or current events), can be tested simultaneously. Teaching experience has shown that such class exercises should cover only relatively small areas of varied relief. Areas of tension described recently in the newspapers are preferred over examples from history (e.g. Upper Silesia or Trieste). At present the Mediterranean island of Cyprus is ideal for such an exercise. Besides posing a serious political problem, it is small in area (3,570 square miles), compact, and of varied relief and climate. Good maps and other data are available,[3] and politicians have suggested principles of two different partition boundaries. These boundaries have never been defined in detail which adds to the attraction of the exercise.

Cyprus' Political Problem

Cyprus' political problem results from the presence of two distinct national and religious groups. Of a population of about 500,000 people, approximately 80 per cent are Greek and Christian and 17 per cent are Turks and Moslems. Several other national and religious groups (Armenians, Maronite Christians, etc.) make up the remaining three per cent. Figure 1 shows the nearly uniform distribution of the various groups. Limited concentrations of specific groups occur primarily in the south and west. Greeks and Turks do not get on well together. To solve this problem and end British rule (dating from 1878), British politicians suggested partitioning the island principally along a north-south line west of Nicosia, the capital. Turkish territory would be west of this line and Greek territory to the east. Turkish politicians suggested partitioning the island along the 35th parallel of latitude; the northern half to be Turkish and the southern half Greek. According to both suggestions transfers of population were

[1] *"American Geography; Inventory and Prospect,"* edited by Preston E. James and Clarence F. Jones, Syracuse University Press, 1954, pp. 218-222.

[2] *Ibid.*, p. 218 (this section was written by Richard Hartshorne).

[3] For a summary see Alexander Melamid "The Geographical Distribution of Communities on Cyprus," in *Geographical Review*, Vol. 44, No. 3, 1956, 355-374; also "Land Use in Cyprus," *Ibid.*, Vol. 48, No. 1, 1958, 112-114.

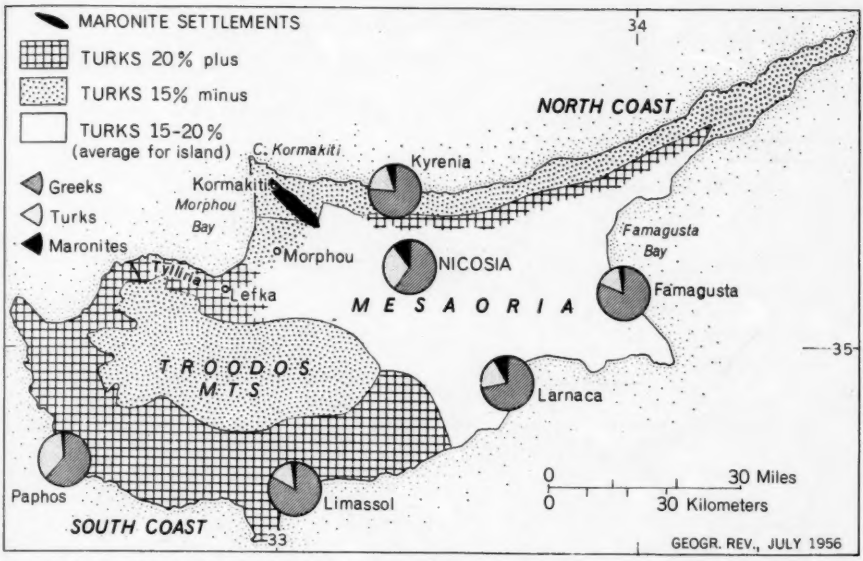

FIG. 1: Geographical Distributions of National Groups. The American Geographical Society has permitted reproduction of this map.

to make each territory nationally homogeneous prior to affiliation with their respective mother countries.

These suggestions are the basis of the exercise. To acquaint students with recent advances in the techniques of boundary definition several rules adopted by the India-Pakistan boundary commissions[4] are added. These rules provide that: (1) settlements are not to be cut off from their hinterland, (2) that transportation between settlements must be available within the national territory, (3) and that irrigated areas are not to be divided unless separate or other equitable arrangements for water supplies can be made.

Using Maps

For the exercise, outline sketches of the maps printed here are drawn on the blackboard. Details are checked on 1:250,000 physical[5] and land-use[6] maps. The final boundaries are superimposed on the land-use map. The length of each section of boundary is measured by the students and a summary prepared.

Boundary suggested by the British. Following the British suggestion a boundary can be drawn from a small area of rough grazing on the North Coast through unirrigated crop land or unirrigated olive and karob groves to the crest of the Northern or Kyrenia range. No communications problem arises in this straight two mile portion of the boundary, and no village is cut off from its surrounding fields. The boundary then follows for four miles the crest of the lightly forested Kyrenia range which is very steep on both sides, has no economic use and is not crossed by any

[4] Described from a geographical point of view in "The Partition of the Punjab and of Bengal" by O. H. K. Spate in *Geographical Journal*, Vol. 110, No. 4-6, April, 1948, pp. 201-222.

[5] "Administration Map of Cyprus," one sheet with excellent colored layering (available from Government of Cyprus, Nicosia: price 4 shillings—about 56¢)

[6] "Land Utilization Map of Cyprus," one sheet, colors and explanations (available from Geographical Publications, Bude, England: price 3 shillings—about 42¢)

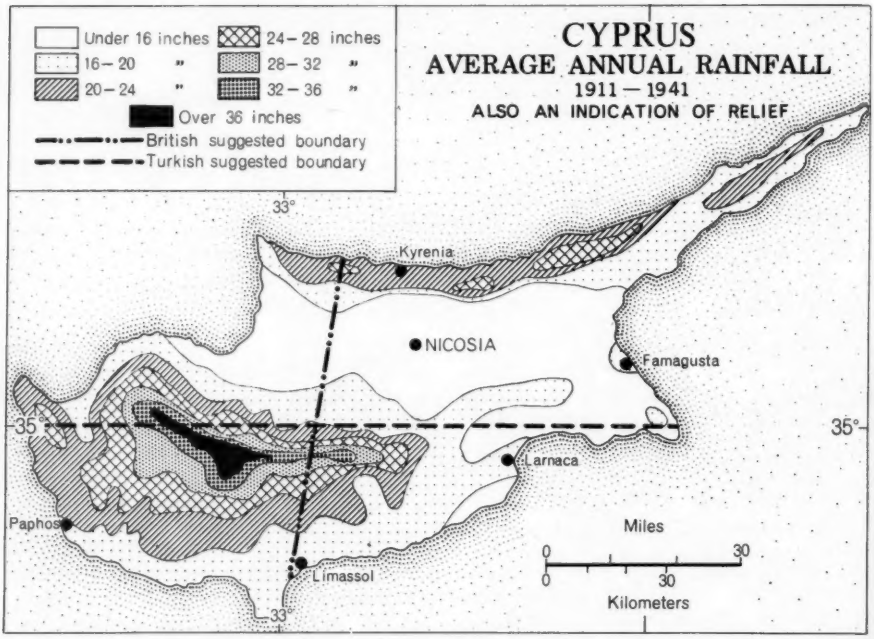

FIG. 2: Rainfall, Relief, and Suggested British and Turkish Boundaries.

important track. South of the ridge in the Mesaoria plain two major irrigated basins are clearly indicated on the land-use map. According to the physical map, streams from similar watershed areas can supply separate sections of each irrigated basin, and the region can be divided as shown on the sketch map. The boundary can follow minor ridges of less intensive land-use between the irrigated basins. In the Mesaoria plain the boundary will be 26 miles long; of this, eight miles divide irrigated areas, 12 miles, unirrigated fields and 6 miles, areas of rough grazing. The northern, deeply incised, valleys of the Central Troodos mountains make definition more difficult. Two of these valleys contain major transportation routes from the South Coast to Mesaoria. For this reason in this exercise the western valley has to be allotted to the Turks and the eastern to the Greeks, except for its mouth which will be Turkish. Mines in this region can be allocated according to disposal of the valleys. Thus the copper mines near Lefka will be Turkish and the asbestos and chrome mines on Mt. Olympos (6,463 feet, highest mountain of Cyprus) will be Greek. In this region the boundary runs for 19 miles on marked ridges between valleys. In the eastern valleys four miles of irrigated land are crossed. Here the physical map indicates possibilities of obtaining separate water supplies. The ridges are covered by magnificent stands of pines and cedars in open woodland lots which provide good visibility.[7] South of Mt. Olympos the boundary can follow minor north-south ridges which are also watersheds (18 miles) without upsetting land-use (unirrigated tree cultivation: olive, karob, vines, fruit-trees) and transportation patterns. Close to the south coast an irrigated area has to be divided according to the water available from

[7] See explanation of the land-use map, footnote 8.

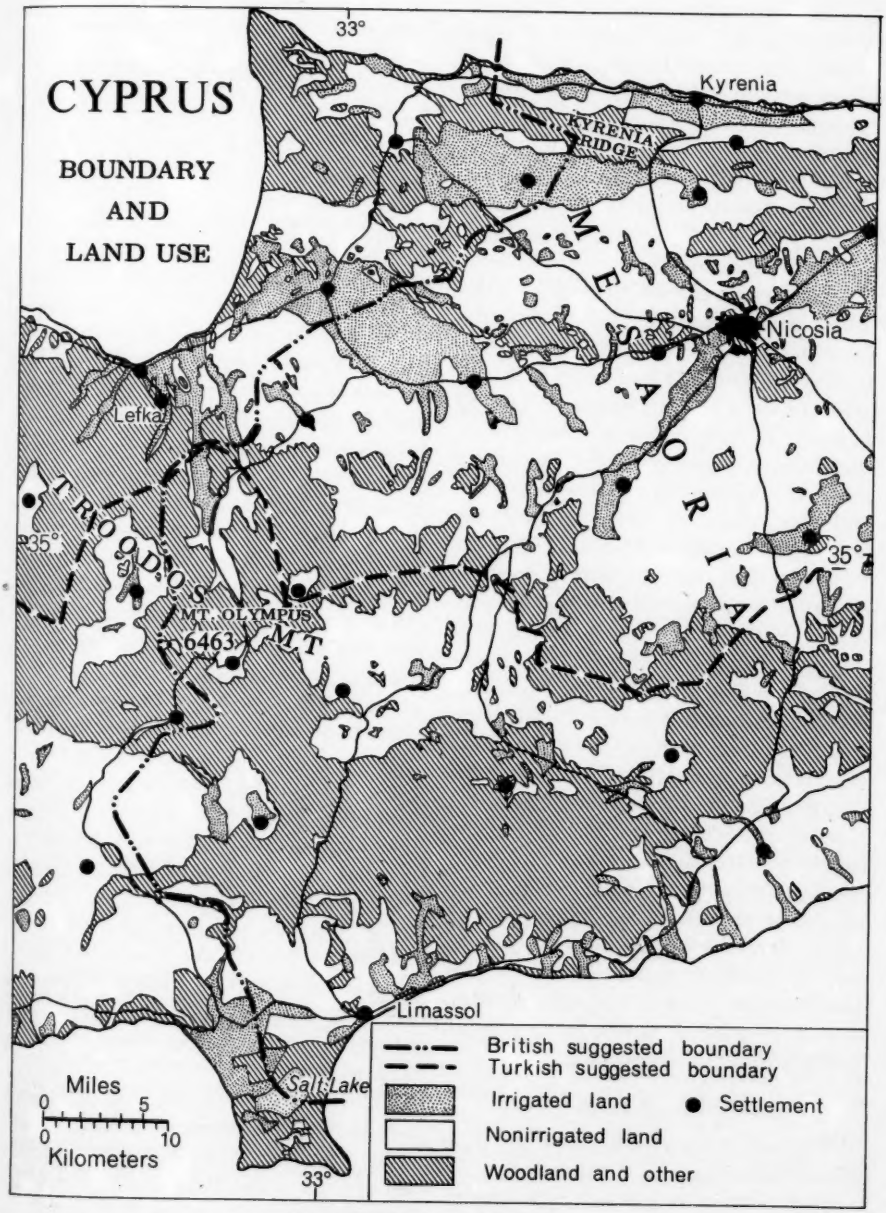

FIG. 3: Boundaries and Land Use.

streams flowing south from Mt. Olympos. The boundary terminates in a salt marsh on the coast five miles southwest of Limmasol. The direct hinterland of Limmasol, with its market gardens shown on the land-use map, will be included with the city in Greek territory. Near the south coast the boundary traverses four miles of irrigated land, three miles of other cultivated land, and three miles of salt-marsh and salt-lake.

Boundary suggested by the Turks. This boundary can be defined similarly. East of the transverse valleys of the northern Troodos Mountains this boundary follows primarily minor ridges (50 miles) that have no or limited agricultural uses (rough grazing). Twenty-six miles of unirrigated agricultural land and four miles of irrigated land are crossed. To avoid interferences with the local transportation pattern, as well as to assure water supplies to the Mesaoria plain in the north and the southern coastal area, the boundary deviates in both directions from the 35th parallel. As no north-south communication is required by the Turkish partition plan, the transverse valleys of the northern Troodos mountains can be allotted to Greece, provided arrangements for the supply of water to the Lefka area (Turkish) and its mines are made. West of the transverse valleys the boundary follows minor forested ridges right up to the sea. The length of the western part of this boundary crosses 32 miles of open forests, 10 miles of rough grazing lands, and 2 miles of irrigated land.

Evaluation of Boundaries

The boundary mileage as defined in the exercise is shown in Table I:

TABLE I

BOUNDARY MILEAGE

	British suggestion miles	Turkish suggestion miles
Irrigated	16	6
Unirrigated cultivated	35	26
Grazing areas and forests	32	92
Total	83	124

Both boundaries follow ridges through most of the forests, rough grazing areas, and unirrigated agricultural land. They cross relatively little cultivated land or other level areas. The local transportation pattern is little interfered with. For these reasons both boundaries can probably be more easily administrated than, for example, the boundaries of India and Pakistan or of Israel and its neighbors.

Consultation of the data on the geographical distribution of national groups in the 1946 census,[8] and especially of its enclosed dot map of population distribution (1:250,000), shows that definition of the boundary following the British suggestion will involve a population exchange of about 60,000 Greeks from Turkish territory against about the same number of Turks from Greek territory. Definition of the boundary according to the Turkish suggestion will involve a population exchange of 200,000 Greeks (half the Greek population of Cyprus) from Turkish territory against about 40,000 Turks (half the Turkish population) from Greek territory. Migration and resettlement of such large numbers of people causes great misery, besides a heavy financial burden on the participating states. These considerations led to the abandonment of either partition proposal, and the two national groups are now trying to live side by side in the new Republic of Cyprus.

[8] "Cyprus, Census of Population and Agriculture, 1946," British Colonial Office, London, 1949.

HOW WE LIVE IN THE WEST INDIES*

OTIS P. STARKEY
Indiana University

THESE ISLANDS, sir, are just pretty holiday places for you visitors, but for us, they are all we got. I tell you how we live—then you understand better our troubles.

I was born in Barbados—live there most of the time. But work so scarce, we Bajans[1] go where work is. My grandfather helped build the Panama Canal; my neighbors worked in the sugar fields of Cuba and in the oil refineries of Curacao.

Most of the women folk stay at home, sir. They get what jobs they can: sometimes weeding in the canefield; sometimes working in the homes of better-off folks. They raise the children and work hard for five dollars[2] a week—that's all most get when they are lucky enough to find work. But we men are ambitious, and sometimes bring more pay from overseas than we could possibly earn in Barbados.

A Sailor's Life

I, sir, work as a sailor on the schooners that carry small bits of cargo between the islands. In Barbados, the schooners and smaller steamers tie up at the wharves in the Careenage (inlet). There are so many boats that they hardly fit in there.[3] This is a good place to find a job because the Schooner Association has its headquarters there. This office tells the captains where to sail to get business and gets cargoes for them.

The boats I work on are not fancy; neither am I! All I wear on board is a pair of old pants and sometimes an undershirt. My skin is dark brown so I don't have to worry about sunburn. I have gone hungry often enough so that I appreciate a meal of boiled rice and saltfish with some sugar cane or mango for a sweet. Being sad don't get man nowhere; I laugh, sing, or whistle even when I have just a few cents in my pocket.

The islands[4] are close together—you can sail from Grenada to St. Kitts without being more than a few hours out of sight of land. When the trade winds blow, Barbados, nearly one hundred miles east of the other islands, is only an overnight sail to St. Lucia or St. Vincent. Sailing into the wind is harder, and getting anywhere during the calms of the hurricane season[5] is slow. Ordinary sail boats carry lots of food; some have to stay at sea weeks at a time. That's why most boats now have auxiliary motors.

I visit most of the British islands and some of the foreign ones. I am lucky—most West Indians have never gone off-island. Most of the islands are small[6] and

* The Federation of the West Indies, or The West Indies, is the official name for those British West Indian colonies which federated in 1958. The unit territories included are Jamaica, St. Kitts-Nevis-Anguilla, Montserrat, Antigua, Dominica, St. Lucia, Barbados, St. Vincent, Grenada, Trinidad and Tobago. This account as told to Otis P. Starkey uses sometimes ungrammatical speech to suggest the islander's manner of speaking. The dialects of the people vary from island to island and are often hard to follow.

[1] The local name for the inhabitants of Barbados, a coral island of 166 square miles, inhabited by 235,000 people.

[2] All prices given are converted into U.S. dollars. One West Indian (Bewee) dollar is worth about $.58 U.S. money.

[3] Barbados is now spending $12,000,000 to build a deepwater harbor to make possible the bulk-loading of sugar and enable even large steamships to tie up at the wharves.

[4] The Lesser Antilles. Some of the larger schooners go to Curacao, British Guiana, Bermuda, and even Canada, but most of the small boats follow familiar courses between "the islands."

[5] June to October.

[6] Jamaica, the largest British island, is about one-tenth the size of Pennsylvania. Any one of the Lesser Antilles would fit easily into an American county.

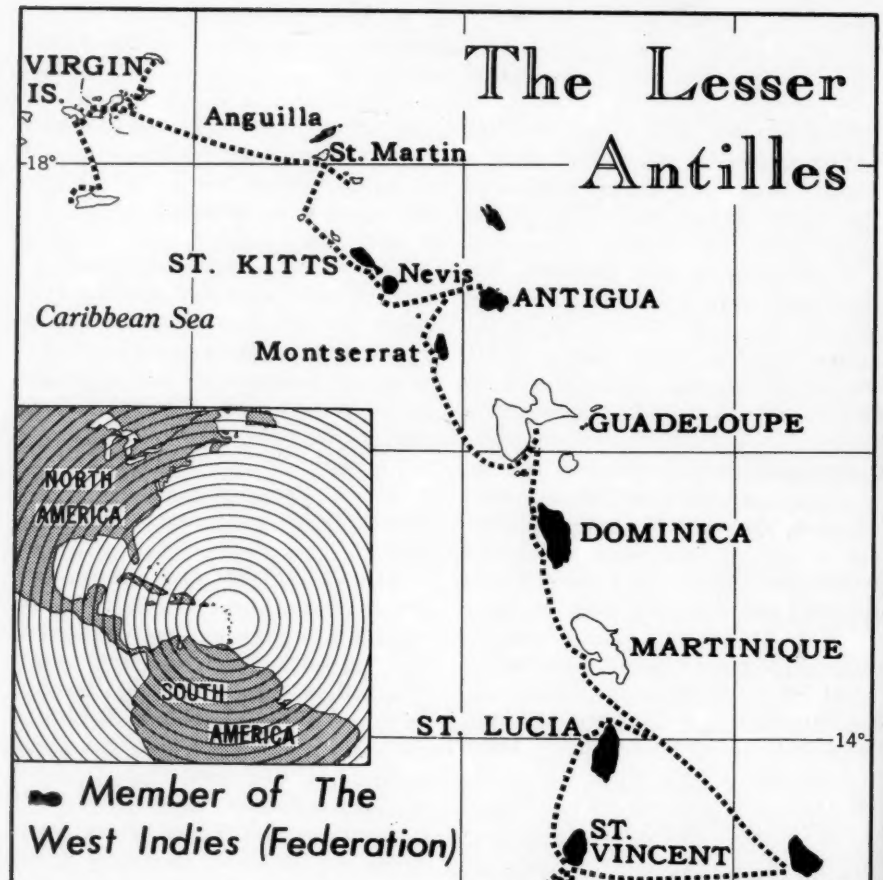

FIG. 1. The Lesser Antilles

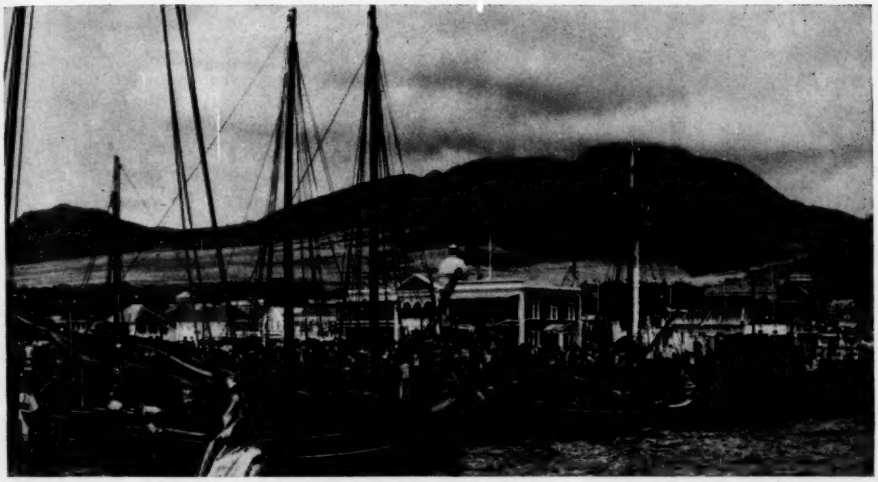

FIG. 2. Interisland boats at Basseterre, St. Kitts. This island can easily be identified by the notches in the volcanic skyline and by its unique Customs House. (British official photograph)

you can sail around one in a day if the wind comes right.

Each Island Is Different

You can easily tell the islands apart if you have sailed as long as I have, sir. Barbados is low and looks flat. St. Vincent has the huge mass of Soufriere volcano at its northern end. St. Lucia has two cone-shaped mountains called Pitons—each rises straight up over 2,000 feet from the sea. Dominica is rainy—its forested peaks are usually cloud-covered. St. Kitts has several volcanoes in the northwest, then a peninsula of low hills pointing toward the big volcano on the neighboring island of Nevis.

We people are different on each island, even if all of us came as slaves from West Africa. In some islands—even the British islands like St. Lucia and Dominica—folks speak a kind of French called *patois*. In Barbados, we wouldn't think of speaking anything but English. We call our island "Little England," and our schools have taught us to speak and write good English. In most other islands people speak English, but it sounds different from Bajan English.

Our Homes

When I get home to Barbados, I feel it is better than the other islands. The scenery may not be so grand as in the mountainous islands, but it makes me happy to see the white coral beaches; inland, the ground is all cleared for canefields, pastures, and house-spots.

Our houses are small—usually about nine feet by 15 and divided into two rooms.[7] The houses of the Bajan working folk may not be much larger than in the other islands, but they look neater to me. Instead of odd mixtures of old boards, plaster, sheet iron, and thatch, our homes are carefully built of Canadian lumber with window shutters and shingled roofs. If a man owns his house spot, he builds on a concrete or stone foundation and surrounds the house with fruit trees and gardens. But if he only rents, his house is perched on six blocks so he can take it apart and move if he quarrels with his landlord.

[7] There are, of course, larger houses in Barbados. Many are built of coral limestone. Government housing projects are providing some low-cost cement houses for the poorer people. But the great majority of the people still live in the little wooden houses.

FIG. 3. This street scene (from Barbados) might have been taken in any of the British Lesser Antilles. The birth rate in these islands is generally three or four times the death rate and population pressure is a serious problem. (British official photograph)

Sir, it surprise you how many people can live in our small houses! Usually, there are at least four; sometimes seven or more. Of course, much of the time we are out-doors—we eat and cook out-doors. When it rains, some air comes in through the slats in the shutters. We don't have much fancy furniture, but we try to keep neat the little space we have.

Thrift

We have learned to be thrifty—when Bajans have extra they save for the "Hard Times" which come from July to November. This is after the cane has been harvested, the sugar all made in the factories. The tourist hotels are almost empty and jobs are more scarce than usual. Nowadays, labor unions have forced wages up, but field workers still get $15 a week in crop season and half that in "Hard Times." Workers in the sugar factories are more skilled, and get paid twice as much, but still they are not rich.

What can we buy with our wages, sir? When I'm ashore, I live with my brother; he has four in his family.

He and his wife make about $15-$16 a week. Many families are poorer, but his, like most, spends about $8.00 for food, $1.30 for rent, $.70 for kerosene for fuel and light. His family like to dress—most of us Bajans do, especially on Sunday—so they spend $2.50 on clothes. Amusement, medicine, and haircut take $1.50, leaving about $1.00 for other expenses, including bus-fare to work. They try to save $.50 or $1.00 a week, but can't always do that when a child gets ill.

What we have, sir, isn't much money, but our women can make a little go a long way. The food they cook is tasty—they know how to use pepper, spices, and cooking oil. And such beautiful print dresses they can make from cheap Japanese cotton!

Yes, please, sir, some things are free. We can talk and sing and amuse ourselves. We go to a free government clinic when ill. In school the children get free lunches. But there are so many children, it is hard to feed them enough. Sometimes rich people give us clothing or furniture they don't want.

Government

Everyone votes since federation, and we believe our government will take care of us. But it is not easy, even for the government. Almost everything comes from overseas, and the government can get money only when we sell our sugar and molasses.[8]

Yes, sir, I know about politics—all Bajans do! Last year the British gave us a West Indian Federation government under British supervision. A Bajan, Sir Grantley Adams, became the first Prime Minister of the Federation. Soon we hope that the West Indians will be allowed to rule themselves entirely, and make it easier for us laborers.

But it is not easy, sir, to make us richer. Jobs are few and the land is crowded. Already there are three or more people for every acre of cropland. Each year, there are more folks, and they swarm into the towns. What can they do? Maybe we should set up factories, sir, but that takes money. Perhaps we should save more of our earnings, but that is not easy when man have as little as we!

[8] This is true in Barbados, St. Kitts, and Antigua. In Trinidad, petroleum brings in more income than sugar and cocoa. In Jamaica, aluminum ore and tourism rival sugar and bananas as sources of income. In the Windward Islands (Grenada, St. Vincent, St. Lucia, and Dominica) bananas are the major sources of income.

TELEVISING POLITICAL GEOGRAPHY

JOHN S. HAUPERT
Sacramento State College, Sacramento, Calif.

IN THE latter part of February, 1959, an educational television station, KVIE, commenced operation in Sacramento, California, with regularly scheduled instructional programs and tele-courses offered each weekday evening. Despite such technical handicaps as having to borrow space, cameras, and other equipment from the commerical stations, KVIE successfully undertook a full and varied schedule of presentations. Among these was a two-unit course in political geography offered to college juniors, seniors, and graduate students in cooperation with the Sacramento State College extension division. The tele-course was presented to a viewing area of fifteen counties of the California central valley region for the first time beginning March 3 and every Tuesday and Thursday eve-

ning from 8:30-9:00 P.M. to June 11. Registration procedures were established for credit or on a non-credit audit basis.

The 28 session 14 week program was designed primarily for those who had completed at least two years of college with some background study in general geography, modern European history, or international politics. An attempt was made by the instructor to screen those students who lacked those prerequisites in order to determine their proficiency for the course. It was felt at the end of the course, however, that the examination results of the 60 students enrolled for credit indicated that more rigid requirements should have been established before these students were allowed to enroll.

Course Content

The political geography tele-course, especially adapted for this medium from the regular classroom presentation, dealt with the characteristics of the political unit as a geographic area and its relation to such factors as location, size, shape, accessibility, routeways, frontiers and boundaries, and interdependence. The relationship of land, resources, people, and production were also examined. Problems of unity and diversity of political states and their regional associations were also explored so that the student would be better able to understand some of the basic elements of foreign policies and, therefore, to interpret more effectively world events.

The course materials consisted of a text entitled *World Political Patterns* by L. M. Alexander, published by Rand McNally in 1957, which proved to be particularly suitable because of its conciseness and because of the many simple, black and white maps throughout the text. The text is also commendable from the point of view of the author's careful consideration of both the systematic (elements) and regional aspects, which are well supported with numerous case studies of individual political units and regions.

The student also utilized Hammond's *Historical Atlas* for supplementary map materials from which pertinent references were cited by the instructor. In addition, a mimeographed course outline and bibliography was provided in order to coordinate the textbook reading references with the instructor's lecture outline which was presented as follows:

I. Introduction to Political Georgraphy
  A. Definitions and elements; relationship to other areas of geography and the social sciences
  B. Methodology of political geography
II. Territory
  A. Location, size, shape, climate, surface configuration, soil and biotic factors, water features, and mineral resources
  B. Anatomy of the political state: capitals, core areas, and population factors; the concept of "nation"
  C. Interdependence: transportation; port geography
III. Boundaries and Frontiers
IV. Evolution and Dissolution of States
V. Demographic Analysis of the State
VI. World Political Regions and Associations
VII. Geopolitics

Production Techniques and Problems

During the several weeks prior to the first program, the instructor became concerned with the multitude of problems resulting from the mechanics of production techniques. One of the most important of these was the problem of timing —how to reduce a regular class period of 75 minutes for a 3 hour course into a half-hour T.V. presentation. It was necessary to allow sufficient time for adequate introductory and closing remarks within the time limitation. Therefore, a "tight" or well-structured program must be produced without the sacrifice of high academic achievement. Needless to say, careful preparation of each lesson by the instructor with the station technicians and production directors was essential. Yet, only two-thirds of the course mater-

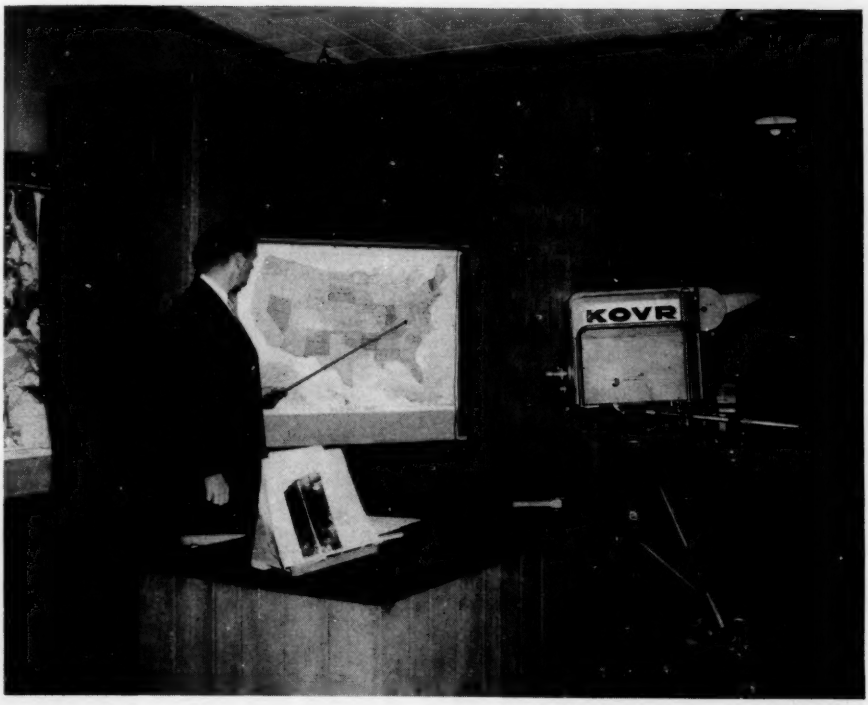

FIG. 1

ials were actually covered which would indicate a number of factors for future consideration in the realm of producing the tele-course.

First, it would seem that a one hour program is more adequate. Written questions submitted by mail could then be answered. This programming would allow a limited, but essential, communication system between the instructor and his audience. Actually, this was accomplished to some extent at the time of the mid-term and final examinations held on the college campus on Saturday mornings. During these examination periods of two hours each, a "give and take" session was held with the class by the instructor and the station's producer in order to reach a greater rapport and also to evaluate the student responses. For example, the students requested a syllabus containing additional materials including outline maps and lists of place names referred to in the lectures.

Second, a fact more apparent to the instructor and station personnel than to the viewers, was the need for more time in the preparation of sets and in rehearsals. Fortunately, all concerned had access to the valuable guide, *Geography via Television* by Jewell Phelps, and the experience of a successful tele-course in introductory geography presented a few years ago by David L. Jennings at Los Angeles City College. The instructor was also fortunate to receive considerable aid and advice from the college Audio-Visual and Radio-T.V. departments as well as the station technicians and producers even though all of these people had little time to spare from their regular duties.

Phelps' "Basic Considerations" were

FIG. 2

achieved in general with the possible exception of Point 6 which states that:

> Participants in educational television must be provided financial compensation. Compensation may be in the form of released time from regular academic duties or of increased salary. It is doubtful that the teacher or college professor who "gives" his time and energy to television programs is contributing to the long-term vigor of educational television. No program of education can be based on "charity."[1]

It must be kept in mind that educational television is not a substitute for the regular classroom situation. In short, the role of a tele-course is to supplement existing facilities in order to reach a greater number of qualified students. No tele-course should be presented without the benefit of a first-class production. From the instructor's viewpoint, this goal would not only involve considerable time derived from the normal academic responsibilities to direct a trained research staff in locating adequate visual materials and their particular arrangement for televising; but also, special funds should be made available for the station to provide suitable "props"—that is, in the selection and arrangement of various maps made especially for television, and the preparation of appropriate diagrams, models, and photographs.

The Set

Figures 1 and 2 show a part of the studio set for the telecast. The plan was essentially a simple one so that the tables, blackboards, easels, and wall maps could be altered each time to confrom to the needs of each lesson. Using two cameras, the technicians, following the

[1] Jewell Phelps, *Geography via Television*, National Council for Geographic Education, Norman, Okla., p. 3.

TABLE 1

SAMPLE PAGE FROM THE COURSE OUTLINE FOR THE TELECOURSE IN POLITICAL GEOGRAPHY

Political Geography
(KVIE—Channel 6)
Course Outline

Part II
J. S. Haupert
Instructor

Tuesday, April 14, 1959

I. The State

VIDEO	*AUDIO*
Wall Maps: Europe (Pol.), Peoples of Europe. Flip Cards: Switzerland (Sketch Maps) West Indies Federation	*Elements:* 1. Physical properties of the political state. 2. Cultural properties. a. Nation concept. Ethnic groups. 3. Anatomy of the state.
Wall Map: Rhineland Flip Cards: Communications: Saar, Lorraine, Ruhr, Rhine.	*Interdependence:* 1. Saar—Lorraine—Ruhr 2. Switzerland & Middle Europe 3. The Port: Hamburg Marseille Trieste Bordeaux Matadi—Beira
Wall Maps: 1. Central Europe 2. Chalkmap—Western Europe (outline: B. & W.) *Sketch maps* on blackboard	

cues which were prepared in a pre-arranged lesson sequence (Table 1), were then able to "shoot" wall maps, vocabulary lists, statistics, and chalk sketch maps appearing on the blackboards.

In addition, a small easel was available for showing mounted photographs and large scale black-and-white maps prepared especially for the television picture which were approximately three units high to four units wide. In order to "structure" the set as simply as possible to achieve the minimum of distractions, some of the wall maps were hung temporarily above the blackboards and could be raised and lowered accordingly.

Occasionally, the instructor prepared outline chalk maps beforehand, and during the lecture, significant details were filled in. Since very few films are appropriate for use in a course of this type, only one of 20 minutes in length was actually used. The subject of this film was interdependence of the industrial regions of the German Ruhr and the French Lorraine. However, the film was not shown until the students were adequately prepared for the subject matter previous to the showing and it was, therefore, carefully integrated into the presentation.

The advantages and disadvantages of a geography tele-course became readily apparent after the first few programs. In sum, the advantages are probably more obvious to the viewer and outweigh the unfavorable aspects. Actually, the instructor found the experience in general a most gratifying and pleasant one. Some of the technical problems have already been alluded to, and one more should be mentioned for it is extremely vital in televising geography courses. Few other problems were found to be as great as the proper use of commercially produced wall maps of various colors. Bright colors as well as pastels were found to have a tendency to merge into grays with very misleading results. Relief is not transmitted effectively nor do other details such as place names and political boundaries remain intelligible to the viewer. The geographer, then, in a tele-course probably must spend considerable time in constructing special-purpose maps requiring advanced preparation for an effective and worth-while program.

GEOGRAPHIC PROBLEMS OF OUR FIFTIETH STATE*

ELIZABETH EISELEN
Wellesley College

HAWAII, our fiftieth state, is, with statehood, "standing on the threshold of a new era of economic development," to quote Governor William F. Quinn.[1] Hawaii, however, has major geographic problems with which to contend. Whether or not Governor Quinn's optimism is justified will depend in large part on how well the Hawaiians can expand their economy within the environmental limitations of the islands.

Hawaii is unique in several ways. Geographically it is our first island state, being separated from the mainland by over 2,000 miles of water. In fact the Hawaiian Islands are located roughly near the center of the North Pacific Ocean and are sometimes called the "Crossroads of the Pacific." Honolulu is almost equidistant from Shanghai, China; Sydney, Australia; and Chicago, United States of America—4,330, 4,420, and 4,351 miles respectively. Furthermore, lying south of the Tropic of Cancer and in the same latitude as Cuba and Yucatan, Hawaii is our first tropical state. Also, unlike any of the other states, the islands are entirely volcanic in origin except for a few coral lowlands.

Historically Hawaii is the only state which has been a monarchy, the islands having been consolidated into a kingdom in the early 1800s under King Kamehameha I. The state's House of Representatives now meets in the throne room of Iolani Palace, and the Governor's Mansion was the residence of Queen Liliuokalani, the last reigning monarch of the kingdom of Hawaii. Hawaii is the first state with roots in Asia rather than Europe. Approximately three-fourths of the people have their ancestry associated with Eastern Asia or islands of the Pacific. In the first state election in July, 1959, 42 out of 81 contested offices were won by Americans of Asian ancestry.

Hawaii consists primarily of a 390 mile chain of eight main islands plus numerous uninhabited islets. The land area of Hawaii is 6,454 square miles, which makes it forty-seventh in size among the states, or approximately the combined area of Connecticut and Rhode Island. It is estimated that Hawaii's civilian population is approaching 600,000. However, over two-thirds of the Hawaiians live in Oahu, mostly in Honolulu, giving that island a population density of about 745 per square mile, as compared with approximately 30 per square mile on the Outer Islands. Honolulu is a rapidly growing modern city with housing and traffic problems.

As many people have pointed out, Hawaii is probably more fully developed than any other state at the time of admission. The economy is currently dominated by four principal sources of income. Number one is defense spending, which is running over $300,000,000 a year. Second is the growth and processing of sugar, and third, that of pineapple, their combined value being approximately $250,000,000. Fourth has been the tourist industry which, however, is expanding so rapidly that it is expected to displace pineapple's place in third position either in 1959 or in the near future. In 1958, visitors, as tourists are known in Hawaii, spent almost $100,000,000.

Distance from Mainland

Both in spite of and because of her geography, Hawaii has accomplished

* Paper presented at the 45th Annual Meeting of the National Council for Geographic Education in Detroit, November, 1959.

[1] "50 Means Good Business," *Newsweek*, September 7, 1959, 68.

much. In many cases environmental factors which are handicaps for some activities may be advantages for others. For example, distance from the mainland is cited as a major problem. However, the visitor who relaxes on a Matson liner on the four and a half day trip between California and Hawaii is probably not concerned about the size of the Pacific. For those in a hurry jet planes now cover the distance in four and a half hours. Furthermore, the Hawaiian Islands have long served as a stopping place for trans-Pacific ships. It is Hawaii's strategic location in the Pacific which accounts for the most important item in the economy—defense spending.

Distance from the mainland, on the other hand, makes our newest state especially vulnerable to anything which interferes with ocean transportation, such as the famous West Coast strikes called by the International Longshoremen's and Warehousemen's Union. In addition, the cost of a long haul by freighter must be included in the market price of all exports and imports. This makes it more difficult, for example, for Hawaiian sugar to compete with beet sugar produced on the mainland or with Cuban cane sugar.

Freight charges also increase the cost of living for the Hawaiians, for they depend heavily on imports to maintain their high standard of living. Two-thirds of their food, as well as much livestock feed, is imported. They also import most construction materials as well as machinery, fuels, automobiles, household equipment, and clothing. As a result, Hawaii's cost of living is high—currently 22 per cent higher than that of Washington, D.C.[2]

Limited Usable Land

Must Hawaii continue to depend on the mainland or foreign countries for so many necessities? Unfortunately a dearth of usable land is a major handicap for needed industrial and agricultural expansion. Not only is Hawaii a small state, but mountainous topography and limited good soil eliminate a large proportion of each island from potential use. The August 4, 1959, issue of *The Honolulu Advertiser* presented an article headed "Land Scarce for Industry," which opened with, "Oahu's industrial land picture is one of scarcity and high price . . ." Much the same is true of Hawaii's agricultural land. According to *Soils and Men:* "Owing in part to the geological youth of the parent materials and in part to the rugged topography of the islands, less than 10 per cent of the area has deep or well-developed soils."[3]

Kauai is the oldest of the islands and, therefore, has been subject to erosion for the greatest length of time. About four-fifths of the island is classified as rough broken land. "The larger portion of Kauai is highly dissected, consisting of knife-edge ridges and narrow valleys with very little level land. This type of rough broken land includes the great canyons of the island, which attain a maximum depth of nearly 4,000 feet with precipitous walls and short deeply entrenched tributaries."[4] Nor is rough broken land limited to Kauai, for it occupies a significant part of all the islands.

The island of Hawaii is the youngest of the group and has a major problem in great expanses of unweathered or only slightly weathered lava flows. The most recent volcanic activity prior to that starting in November, 1959, occurred in 1955 in the Puna district of the southeast where flows covered about five square miles of land. In places the lava was still warm enough in the summer of 1959 to turn rainwater into steam. The most

[2] "Sun, Sugar, People, Pineapples," *U.S. News & World Report,* March 30, 1959, 78.

[3] U.S. Department of Agriculture, *Soils and Men, Yearbook of Agriculture, 1938,* Government Printing Office, Washington, 1938, p. 1154.

[4] *Ibid.,* p. 1160.

troublesome of the flows are of the Aa type which may remain hard, rough, and useless for generations.

Water

Another problem limiting development of many parts of Hawaii is that of water, some places having too much, others too little. The problem is clearly stated in the following paragraph.

> Large acreages of arable soils in Hawaii do not regularly receive enough rain to support a profitable plant cover. Other large acreages have high rainfall but are so steep and inaccessible they cannot be cropped. Yet other acreages have soil, surface configuration, and rainfall favorable to productive agriculture. The arable dry soils, the wet steep soils, and the arable soils with sufficient rainfall occur as small units. . . . Rainfall or arability range from favorable to unfavorable . . . in short distances. The water and rainfall economy is extraordinarily complex.[5]

Much of Hawaii's rain is orographic. Lying in the belt of northeast trade winds, the windward sides of the mountainous islands have yearly totals of more than 100 inches, and in places the annual average is 200 inches or more. Kauai's 5,000-foot Mount Waialeale has an average annual precipitation of over 450 inches, making it one of the wettest spots in the world. Some of Hawaii's most scenic drives are on the moist windward coasts where lush green vegetation, mountainous terrain, and numerous waterfalls combine with the blue Pacific and black lavas or sandy beaches to delight the photographer but limit land use.

Leeward coasts, as well as the small islands of Niihau, Lanai, and Kahoolawe, which lie in the rain shadow of larger islands, suffer from insufficient precipitation. These areas may receive assistance from cyclonic storms, but cyclonic rain is less predictable than orographic rain as to season of occurrence and annual total. Most of the leeward districts have sections which receive less than 15 inches of rain annually, and in some places the total is under 10 inches. Even where rainfall would seem to be adequate for crops, its value may be lessened by rapid seepage into porous bedrock.

In many places water is caught on roofs and stored in tanks. Unfortunately storage of water in reservoirs for domestic, agricultural, or industrial use is not practical for the most part. Storage areas are small because of the rugged terrain and because seepage into the porous rocks is excessive. Ground water is available in many places, but construction of wells or tunnels to tap it is expensive, and care must be taken to avoid salt water contamination.

An excellent example of the water problem is found on Molokai, the least developed of the larger islands. In western Molokai where the arable lands are located annual rainfall ranges from less than 10 inches to about 40 inches. The economy is largely limited to cattle and pineapple. In an effort toward diversification, irrigated alfalfa is being grown successfully on a limited scale for shipment to ranches on Oahu and the island of Hawaii. Expansion of alfalfa acreage is precluded by a shortage of irrigation water in spite of the fact that an estimated 50 million gallons of water per day could be obtained by tunnelling into a zone of ground water in the eastern mountains.[6] This is too expensive an operation for the residents of this sparsely populated island to finance alone, and outside assistance has not been forthcoming. The islanders are hoping that statehood will result in a Federal appropriation.

Man-made Problems

In addition to natural limitations, there are man-caused problems. The

[5] U. S. Department of Agriculture, *Soil Survey of the Territory of Hawaii*, Series 1939, No. 25, Government Printing Office, Washington, 1955, p. 11.

[6] *Ibid.*, p. 22.

world's highest agricultural wages are paid in Hawaii where pineapple and sugar workers belong to the ILWU. High wages make it difficult for Hawaii's tropical products to compete with those from low-wage areas of the world. A letter dated October 12, 1959, from the Hawaiian Pineapple Company reports: "Pineapple produced in foreign lands is increasing. Whereas Hawaii supplied more than 70 per cent of the world's pineapple ten years ago, this quantity now has been reduced to 57 per cent." High wages have led to increasing mechanization of agriculture and the migration of unemployed agricultural workers to Honolulu.

Hawaii has a land ownership problem also, some 60 owners controlling four-fifths of all the land. Much of the better property is held in large estates and is available only for lease. On Oahu most of the potential industrial land that is available for purchase ranges in price from $1.00 to $8.00 per square foot. Eight dollars per square foot is almost $350,000 per acre. Choice land in Honolulu is reported to have been sold at $40 per square foot. Nor is good land on the less populated Outer Islands inexpensive. On Maui land suitable for commercial use recently sold for $3,800 per acre.

Lack of Raw Materials and Fuels

Among Hawaii's other problems is the lack of raw materials and fuels. The steam power plants use imported oil. The islands have no coal or oil, and the short intermittent character of the streams combined with lack of reservoir sites limits hydroelectric power. The only mineral of some potential importance is thought to be bauxite which has not yet been developed.

Other raw materials, too, are largely lacking. It is estimated that when Captain Cook discovered the islands in 1778 three-fourths of Hawaii was forested. Native forests have largely been replaced by grasslands or imported vegetation. Today Hawaii's forests are of more value in soil and water conservation than as a source of forest products. Some planting now is being done for timber production, but it is far from enough to make Hawaii self-sufficient in wood and wood products.

Economic Future

In view of these and other problems,[7] what about the economic future of Hawaii? Our newest state is endeavoring with some success to attract light industry to take advantage of an increasing population. Labor would be more important than power or raw materials. Diversification of agriculture is being encouraged. Some private experimentation is being done with papayas on Molokai, and it has been found that papayas, Vanda orchids, and woodroses can grow on some of the island of Hawaii's unweathered lavas. Accommodations for visitors are being expanded, both in Waikiki and on the outer islands. New jobs are especially needed on the outer islands to stop migration to crowded Honolulu. But as has been pointed out, Hawaii faces many problems in trying to accomplish these objectives.

Newsweek, in its September 7, 1959, issue, examined Hawaii's natural and man-made problems, and the analysis provides a concluding paragraph.

> Hawaiians recognize these problems and "will meet the challenge of rapid diversification and tremendous growth with ease," promises Governor Quinn. Another enthusiastic but more cautious observer, however, warns of the potential pitfalls in a too-hasty, ill-conceived expansion. He compares Hawaii's economy to the walks in Honolulu's parks, which grow slippery when flowers fall from the trees. "Even in paradise," he notes, "you have to watch your step."[8]

[7] For further details on Hawaii see Loyal Durand, Jr., "Hawaii," *Focus,* IX (May, 1959).
[8] "50 Means Good Business," *op. cit.,* p. 72.

USING A FLANNELGRAPH IN BOOK REPORTS

HAZEL WARD HOFFMAN

THE FLANNELGRAPH has often been used to inspire the poor reader to better work. A fifth grade girl of foreign language background selected James V. Medler's *Mountains and Volcanoes* (Maxton Publishers, Inc., New York, 1954) for a book report and presented it in flannelgraph. After reading the book, she followed the illustrations as a guide for her flannelgraph figures. She showed some of the mountains by depicting the story of each one on the flannelboard, as well as presenting the usual book report information: author, title, where she got the book, and how she liked it.

This girl had, on her own initiative, used the flannelboard to make an interesting report on a book containing geographical information. The book had been quite popular with the pupils and had previously been presented in other forms. Nearly everyone in the class had read it, yet the flannelgraph presentation was so unusual that it held the attention and interest of the whole group. The pupils learned more about the places through the vivid graphic illustrations included in this presentation.

The figures for this report were drawn, colored, and cut from rough construction paper, which does not usually need flannel backing. The figures were then placed on the flannelboard as each mountain or volcano was described orally. (Three-dimensional pictures provide good teaching material; however by using cut-outs, mountain climbers appear to go up the mountain, wagons and carts seem to roll along the trails, and fire is shown coming out of a volcano. This action creates more interest, both for the audience and the narrator.)

A typical dialogue, describing the mountains and volcanoes with notes on flannelboard additions, is as follows:

El Paricutan

A Mexican farmer, working in his cornfield (place farmer in his cornfield) was quite surprised to feel warm earth beneath his feet and to find a crack in the earth from which steam arose (Fig. 1). (Place cut-out on board to indicate steam coming from the earth.) This first volcano to form during our life-time started to form on February 20, 1943.

After growing and growing for three years (place medium-sized volcano to cover the cornfield) Paricutan, named for the nearby village, exploded (show flames and rock rising into the air), forming the huge mountain there now (cover with large mountain).

Mount Kilimanjaro

There is an old volcano, 19,000 feet high, which is one of a chain in East Africa, Tanganyika (place mountain). The Kibo peak is known as the "Grand Old Monarch of Africa." It is covered across the 7,400 foot crater at its top with an icecap (place icecap).

Near its base there is a crater floor so fertile that it supplies much food to the wild animals (show elephants to one side, tigers and lions hidden by bushes on the other side).

Mount Rushmore

When one thinks of the Black Hills of South Dakota, Mount Rushmore immediately comes to mind (show large mountain). In 1920, Gutzom Borglum was commissioned by Congress to carve the faces of Washington, Jefferson, Lincoln and Theodore Roosevelt, as a memorial to these Presidents, from the granite mountain (Fig. 1). (Show scaffolds and men.)

It was finished by his son, Lincoln Borglum, in 1941 after fourteen years of

work (place completed memorial). Sixty feet high, the heads can be seen 50 miles away.

(Note: the mountain itself may be cut from tan or brown flannel.)

Mauna Loa

For 60 miles across Hawaii, Mauna Loa stretches to a height of 13,657 feet (place the mountain). White-hot lava sometimes shoots up several hundred feet into the air (show lava). The Alika River, a flow of this lava, looked like a wall of fire (show flow with bystanders at the edge of the board watching it).

King George Mountain

The United States National Geographical Society sent out an exploring party in 1935 to St. Elias Range in the Canadian Yukon to map the unknown areas to the east. They discovered a rose granite mountain, which is 12,300 feet high and constantly covered with ice and snow (show mountain). It is located in the Rockies of British Columbia (show dog team coming over the base of the mountain toward an Indian village in the valley).

Fujiyama

For more than 250 years this volcanic mountain (place mountain) has been quiet (Fig. 1). Because of its beauty, Japanese artists often use the mountain in their works (place trees near the base with small lake and boats). Due to its gentle slope, many visitors climb it (place climbers) at night when it is cool (place moon). On the trail there are rest homes where tea is served (show little rest homes).

Conclusion

In schools which do not have *Mountains and Volcanoes,* pupils can be encouraged to depict geographic scenes from texts or encyclopedias. To be authentic, the mountain should be copied from some picture in order to have an accurate contour. Buildings, boats, cars, animals, trees and plants native to the region may be added for interest and atmosphere in this unusual and interesting supplement to oral book reports.

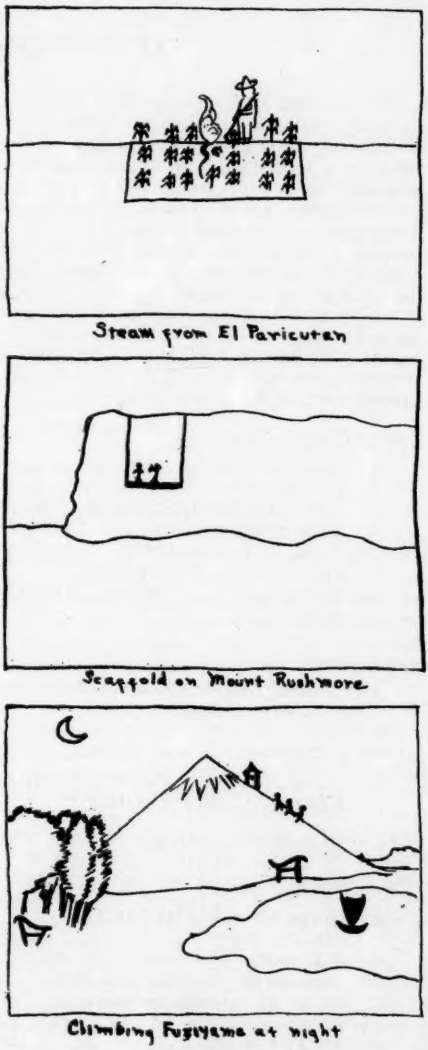

FIG. 1

NATIONAL COUNCIL AT WORK

In November, 1958 the Executive Board of the Council established a Publication Center at the Universitiy of Oklahoma. The purpose was to establish a central and permanent publishing and distribution center for Council publications. During the first year of its existence, Publication Center mailed over 5,000 copies of material to various public schools, colleges, libraries, and individuals; and for the first time Council publications supported themselves. Also, two new catagories of publications were started—the Leaflet series and the "Do It This Way" series.

The following new publications are now being processed and will probably be ready for distribution during the early summer.

"Do It This Way" Series

#3. Rich and Young. USE OF SLIDES, FILMSTRIPS, MOTION PICTURES, AND THE OPAQUE PROJECTOR IN THE TEACHING OF GEOGRAPHY

#4. Gross. A GEOGRAPHIC STUDY OF THE HOME COMMUNITY

#5. Montgomery. GEOGRAPHY VIA EXHIBITS

Leaflet Series

#3. Sabaroff. MAPS AND MAPPING IN THE FIRST GRADE

Special Publications

#5. Olson. BIBLIOGRAPHY FOR WORLD REGIONAL GEOGRAPHY

Publications now available are:

"Do It This Way" Series

#1. Phelps. GEOGRAPHY VIA TELEVISION, 1958. ..... $1.00
A 32-page booklet with 11 illustrations about methods and techniques for teaching by television.

#2. Halverson. GEOGRAPHY VIA PICTURES, 1959. ..... 1.00
A booklet illustrating methods and techniques in the use of pictures, still and motion, in the teaching of georgraphy and the social studies.

Leaflets

#1. Phillips. HOW TO ORGANIZE A GEOGRAPHY CLUB, 1958. .. .10

#2. Mathis. SUGGESTED READINGS FOR HIGH SCHOOL GEOGRAPHY, 1959. ..... .25
An annotated list of books for a course in World Geography.

Professional Papers

#11. Eiselen. VALUES AND PROBLEMS IN THE USE OF COLOR TRANSPARENCIES, 1951. ..... .25

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#4. Stimson (Ed.). THE STATUS OF GEOGRAPHY IN THE SECONDARY SCHOOLS OF THE UNITED STATES, 1956. ..... .75

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JOHN W. MORRIS

BOOK REVIEWS

Ethel E. Ewing. **Our Widening World.** Rand-McNally Company, Chicago, 1958. 740 pages. 71 maps, bibliography and index. $5.56.

This is an unusual book on several counts. First, it is a world history designed for senior high schools with a strong geographical and social science bent. The author lists "six main keys" to unlocking the doors of knowledge to a society: Geography, Technology, [Social] Organization, Special Achievements, Cultural Interrelationships (within a society), and Relations with Other Societies. These keys are used to examine the history and nature of seven major societies: Far Eastern, Indian, Moslem, Slavic, Western European, Anglo-American, and Latin American.

Second, it begins with China, continues to the other East Asian areas, Southeast Asia, India, and the Near East before dealing with "Western" civilizations *per se.*

Third, it presents difficult and even controversial historical questions with skill and sophistication, partly possible because of a distinguished list of consultants headed by John Fairbank and Shannon McCune.

As indicated in her preface, the author, unfortunately, mistakenly believes geography to be concerned only with location and natural environment. Geography as human ecology or as the study of spatial relationships is beyond her ken. One also could argue with certain of her "keys" and with the inclusion or omission of many items, or with her implicit reference to social anthropology as the "master social science." However, this failing does not interfere with an excellent survey of world history by major culture realms which can be read with profit by adults, both teachers and laymen. One particularly interesting contribution is the inclusion of chapters giving a cross-section of a society at a particular period, e.g., "China 1700—Portrait of a Traditional Society," or "Traditional Indian Society in 1800." The emphasis on Asian civilizations is, of course, long overdue, and Miss Ewing is to be congratulated on giving them the attention they deserve.

NORTON S. GINSBURG
University of Chicago

Sturges F. Cary. **Volcanoes and Glaciers.** Coward-McCann, Inc., 210 Madison Avenue, New York, 1959. 96 pages with photographs, diagrams, and maps. $2.50.

This small volume on Iceland, one of a series of Challenge Books, gives a comprehensive, documentary account of an area known by name to all the world but unknown geographically to most. Unfortunately, Iceland does not appear in the cover title and when the dust jacket is removed the regional identity of the book is not apparent. Aimed at ages 10-15, its usefulness should, however, include adults.

Although the life of the people is in a great measure affected by volcanoes and glaciers, the influence of latitudinal and oceanic position and ocean currents is given proper emphasis. An all too common error is made in entitling one chapter "River in the Sea" when, however, discussion and maps clearly identify the Gulf Stream.

This interesting and informative volume uses pictures to help portray the life of the people and many of their natural wonders. Diagrams illustrate the action of volcanoes and glaciers. Maps show Iceland's great circle position on the New York-Moscow route; the winds, currents, and July and January isotherms of the north Atlantic; and earthquake belts of the world. A large scale map of Iceland adds much to the understanding of the narrative.

ANNAMARIE KRAUSE
Southern Illinois University

Joel Martin Halpern. **A Serbian Village.** Columbia University Press, 1958. 325 pages. $6.00.

When a sociologist writes good geography the fact deserves to be recognized. This book is a study of the village of Orašac, in the Šumadija region, about thirty-five miles south of Beograd (Belgrade). Its primary concern is, of course, with social organization and attitude, but the author has his feet so firmly planted on the ground that to him, unlike many sociologists, society is not something separate from the environment in which it functions.

He starts with the geography of Šumadija, and then reviews the changes in the human occupance of the area. This leads to the Orašac of five years ago, when the author was living there. The settlement pattern and population, building types and materials, farming practices and products, and the rise and decline of the collectives are all examined as much from a geographical as from a sociological angle.

Only in the second half of the book does the author turn to the narrower sociological aspects of his study, and even here he has a breadth of outlook and a freedom from the conventional jargon that is commendable. Throughout, the narrative is enlivened by quotations from Serb folklore and folksong, and it is surprising how rich these can be in geographical allusions. A group of over 70 photographs does much to sharpen the geographical perspective of this already balanced and readable account.

NORMAN J. G. POUNDS
Indiana University

James M. Smythe and Charles G. Brown. **Elements of Geography.** Macmillan Co. of Canada, Toronto, 1959. 285 pages with diagrams, graphs, maps, photographs, reference bibliography, index, and table of contents. $3.00.

This is a textbook that well merits considera-

tion by teachers of physical geography in our secondary schools. All the major branches of our field are treated, but more than two-thirds of the book is devoted to physical elements and to climatic regions. The avowed purpose of the authors is to provide "the essential foundation upon which . . . detailed studies in Regional Geography can be built"; in this they succeed very well. The writing is very clear and illustrations are abundant and effective.

The book has an economy of style and a conciseness that is commendable but which is likely to put it beyond the easy understanding of all but the better students in the United States. It is a text that requires a teacher well grounded in his field so that he may elaborate and supplement its somewhat abridged presentation. The text will undoubtedly have its greatest appeal to those trained teachers of geography who participate in earth science programs.

With the reservation that has been stated, the use of this text seems likely to provide a grounding in the fundamentals of physical geography and at the same time supply an introduction to the cultural elements in which principles are stressed. Illustrative material is well chosen and admirably related to the systematic treatment. Employed by competent teachers, it should go a long way toward eliminating those gaps in understanding which so often contribute to the dissatisfaction of both students and teachers with introductory regional study.

ARLIN D. FENTEM
Western Illinois State College

Bill Brown. **People of the Many Islands.** Coward-McCann, Inc., 210 Madison Avenue, New York, 1958. 94 pages with black and white photographs, maps, diagrams, drawings, and index. $2.50.

This book tells the story of the ancient and modern Polynesians. It should be of particular interest and value to children of grades 4-6. The story gives an excellent description of the early exploratory voyages, shows how the people adapted themselves to both coral atolls and higher volcanic islands, and tells of Polynesian ways of living today.

The format and printing appear well designed, and the numerous pictures, maps, and diagrams should add interest. Much of the book is presented in story form which will especially appeal to juvenile readers.

A minor criticism concerns the pictures which were selected for this book. They are generally quite decorative and informative, but in a few cases the people shown appear to be Melanesian or of mixed blood. Certainly, if they are Polynesian, more typical examples of the group could have been found.

Most children will find this book very interesting. It should be of value to them both in giving the history of a unique group of people and in showing the essential connections between a people and their environment.

LOWELL I. DILLON
Ball State Teachers College

Vincent H. Malmstrom and Ruth M. Malmstrom. **The British Isles.** The Fideler Company, Grand Rapids, Michigan, 1959. 192 pages with illustrations, glossary, index, and table of contents. $3.28.

This is another volume in the *Life in Europe* series designed for the upper elementary reader, and, like the other volumes in the series, there are big, black and white pictures, clear full-page maps, questions to stimulate further investigations, and an excellent glossary. Another page is given to an explanation of such confusing terms as Britain, Great Britain, England, The United Kingdom. There is also an excellent page on the Commonwealth of Nations, with a world map and a text explaining the diversity in unity of the peoples who call H. M. Queen Elizabeth the "Head of the Commonwealth."

The outline of the book, it would seem, is based on a trip over the British Isles and "Our Trip" is plotted on the map on page 14. This would have been an excellent idea if it had been maintained. According to this map, very little of Lowland Britain is visited, yet this is not true of the text. For example, on page 51, ". . . Our road passes through a region of rich soil, called the Fens." Moreover, "Around the big industrial cities in this area, . . ." is a puzzling statement, as there are none in the Fens, or on the map of cities on page 98. Even in the Highland zone itself there is an odd, over-weighting in the selection of pictures; there are more on Ireland, for example, than on any of the other highland areas.

As well as chapters on the geography, there are chapters on education, writers, arts and crafts, sports and recreations, early and later history, and government. These are very good. London is treated separately and well, but it is saddening to see such good material represented by a clear map that has no scale. This is not the only map without a scale and in some maps there are no co-ordinates of latitude and longitude, in others these are incompletely numbered.

The text is vigorous, never dull and is written with sympathetic understanding. The information is up-to-date. The backward reader will gain much from it; the bright reader might be disappointed to find that if nine-tenths of the people live in towns, there is only one interior picture of a town home, the other two pictures of homes being those of a Victorian terrace in a village and a farm home; both are unlocated regionally. However, because of the great regional differences within the British Isles, the authors have made an excellent attempt at a most complex subject. Their readers will profit much from their labors.

E. JOAN WILSON MILLER
Indiana University

Oden Meeker. **The Little World of Laos.** Charles Scribner's Sons, New York, 1959. 256 pages with table of contents, index, bibliography and a picture essay by Homer Page. $4.50.

The Little World of Laos is recommended as introductory reading for high school and college students and the general public. The 32 pages in the picture essay contain 39 interesting and instructional pictures which could be useful in intermediate and junior high school classes.

Of the 18 chapters, 14 are devoted to clear and realistic descriptions of the landscape, the Laotians and their daily activities, as well as foreign aid. These chapters should be helpful to those wishing to acquire information about Laos, past or present, and to learn vicariously with the author.

The book has several limitations. There isn't a single map to show the exact and relative locations of dozens of place names used in the text. This is a serious omission in a book written apparently to introduce readers to a formerly little-known country. Many uninitiated readers about Laos have difficulty visualizing the location of the small countries and large cities in Southeast Asia, not to mention the provinces or smaller cities. In fact, the general reader may well lose interest in the book if he does not have the habit of using an atlas. Another serious limitation is an attempt to present Thailand and Cambodia in two short chapters.

In spite of some inaccurate information such as, ". . . where the maps were sometimes a good twelve degrees, or about fifty miles, off in the region of the Chinese and North Vietnanese frontiers" (In that area of the world one degree of latitude or longitude is more than fifty miles.), I recommend this book to libraries and persons as an introductory book on Laos.

THOMAS FRANK BARTON
Indiana University

Amabel Williams-Ellis. **The Unknown Ocean.** G. P. Putman's Sons, 210 Madison Avenue, New York, 1959. 72 pages with illustrations. $2.00.

The Unknown Ocean, a Science Explorer Book intended for ages 8-12, seems to rely on experiences and problems of scientific adventurers whose writings are acknowledged in the text. Exploration by ocean liner, life boat, raft, aqualung, and bathyscaphe take one from above the earth's surface to depths of several thousand feet. The material seems somewhat disorganized and the style and language too difficult for this age group.

The reader would enjoy the antics of Opo, the poropise, but few children would comprehend the problems involved in making the floats of the bathyscaphe, or the significance of finding the "pre-historic fish, coelacanth." However, the concluding observations of seaside rock pools and salt water aquariums are more readable.

The few illustrations are generalized representatives of sea life without captions.

ANNAMARIE KRAUSE
Southern Illinois University

John R. Borchert. **Minnesota's Changing Geography.** University of Minnesota Press, Minneapolis, 1959. 189 pages with illustrations and maps, 8 pages of statistics, index. $4.25 (trade discount), $3.00 (special school discount).

Minnesota's Changing Geography is an exceptionally well written and illustrated textbook intended for use in the intermediate grades. Selection of words and material is excellent for its intended users. The book provides adequate information about the varied landscapes of the states and the changing patterns of man's use of the land. The foundation for understanding is laid in chapters on "Many Seasons," "Nature's Land," "Fields and Pastures," and "Treasures in the North Country." Then follow chapters on "Going to Town in the Main Farming Regions" and "Trade and Industry in the North Country". The Twin Cities are emphasized. There is a chapter on "Routes to America and the World" and a brief description of the governments and political subdivisions of the state. There are eight pages of statistical facts and an adequate index. The book represents a great improvement over the usual state supplement to various geography series. *Minnesota's Changing Geography* is a must for students in Minnesota and a desirable reference reader for young people elsewhere.

OTIS W. FREEMAN
University of Arizona

Walter A. Wittich and Gertie Hanson Halsted. **Educators Guide to Free Tapes, Scripts, and Transcriptions.** Educators Progress Service, Randolph, Wisconsin, 1960. xiv and 225 pages, including three indexes. $5.75.

This *Guide* lists, classifies, and provides information on sources, availability, and contents of 100 free tapes (20 new), 277 free scripts (40 new), and 134 free transcriptions (38 new).

Under "Geography" three British Information Scripts are described. Under "Conservation of Natural Resources" thirteen tapes on forest conservation by the Texas Education Agency are listed.

An article "Why Willie Won't Listen" offers six approaches to the improvement of listening skills. A Tape Adventure Service provides opportunity for audio tape recording exchange.

Schools should find this *Guide* a serviceable source book.

HERBERT H. GROSS
Concordia Teachers College
River Forest, Illinois

Diana Hammond. **Let's Go to a Harbor.** G. P. Putnam's Sons, 210 Madison Avenue, New York, 1959. 47 pages with illustrations by Robert Doremus, glossary. Juvenile ages 8-12. $1.95.

One of the busiest and most exciting places to visit is a harbor. Accurate proof of this is found in the book *Let's Go to a Harbor*. The book has the advantage of being well endowed with illustrations by Robert Doremus. There is a picture for just about every activity Diana Hammond describes. The drawings are accurate and the scenes they depict are typical of what one would see if actually visiting a harbor.

The book covers a wide range of harbor activities from the docking of ships to the equipment used for cleaning a refuse filled harbor. In terms of the age level (8-12 years) for which it was written the book is of excellent quality. The printing is in large type, the vocabulary holds to the age level with just enough unfamiliar words to increase one's vocabulary, and the child should be able to finish before he loses interest. On the inside jacket cover is a lesson plan which lists activities that can be worked into any phase of teaching. In addition, there is an excellent glossary of words and definitions.

This book should stimulate the child's curiosity enough for him or her to drag some poor harassed father or mother to the nearest harbor in double quick time and woe be if there isn't one within a day's travel time. One can rest assured that the next vacation will find the family in the vicinity of some harbor if the children have anything to say about it.

PAUL L. RAWSON
Southeast Missouri State College

GEOGRAPHIC MATERIALS RECEIVED

T. A. Irvine. **The Ice Was All Between.** Longmans, Green and Company, Inc., 55th Avenue, New York, New York, 1959. 216 pages with table of contents, foreword, author's note and photographs. $4.50.

Oxford Economic Atlas of The World. Oxford University Press, 417 Fifth Avenue, New York 16, New York, 1959. 152 pages. $6.75.

Walter Isard, Eugene W. Schooler, Thomas Vietroisz. **Industrial Complex Analysis and Regional Development.** John Wiley & Sons, Inc., 440 Fourth Avenue, New York 16, New York, 1959. 294 pages including preface, table of contents, list of tables, figures, flow sheets, and summary. $8.75.

F. J. Monkhouse. **A Regional Geography of Western Europe.** Longmans, Green, & Company, Inc., 119 West 40th Street, New York 18, New York, 1959. 726 pages including table of contents, preface, introduction, list of plates, list of maps and diagrams, index of place-names, and 141 diagrams. $9.75.

Gavin Maxwell. **The Ten Pains of Death.** E. P. Dutton & Company, Inc., 300 Fourth Avenue, New York 10, New York, 1959. 272 pages including table of contents, prologue, 17 plates and appendix. $5.00.

K. B. Cumberland and J. W. Fox. **New Zealand, A Regional View.** Whitcombe and Tombs Ltd., P. O. Box 1465, Christ church, New Zealand, 1960. 280 pages including preface, table of contents, list of 60 maps in the text, list of 56 plates, bibliography, and index. $2.60.

Herbert Kaufman. **The Forest Ranger: A Study in Administrative Management.** The Johns Hopkins Press, Homewood, Baltimore 18, Maryland, 1960. 257 pages with xviii, foreword, table of contents, preface, and index. $5.00

Aviation Education Bibliography. National Aviation Education Council, 1025 Connecticut Avenue, NW, Washington 6, D.C., 1959. 34 pages including foreword and table of contents. Free.

France and Her People. Ambassade De France, Service de Presse et d'Information, 972 Fifth Avenue, New York 21, New York, 1959. Single copies free of charge.

Visit Mexico. Travel Division, Pan American Union, Washington, D.C., 1959. 40 pages including photographs and maps. $ .15.

The Pan American Highway System. Pan American Union, Washington, D.C. 1959. 66 pages with foreword, table of contents, five appendices. $ .50.

Proceedings of the Third Regional Technical Conference on Water Resources Development on Asia and the Far East. Columbia University Press, 2960 Broadway, New York 27, New York, 1959. 173 pages. $1.75.

J. R. Ray and R. H. Fuson. **Laboratory Exercises in Physical Geography.** Wm. C. Brown Company, Dubuque, Iowa, 1959. 160 pages with table of contents. $2.75.

R. H. Fuson and J. R. Ray. **Problems in World Cultural Geography.** Wm. C. Brown Company, Dubuque, Iowa, 1960. 276 pages with xii including foreword and table of contents. $4.00.

"Warmly recommended . . . rich map material."

—JOURNAL OF GEOGRAPHY

A Geography of Europe

Edited by George W. Hoffman, University of Texas—with 9 Contributing Authorities

A definitive geography of Europe written by European-trained specialists. The book divides the continent into seven basic regions—each analyzed by an authority on the particular area covered—according to its political, natural, and cultural boundries. It provides the basic background in historical and physical geography necessary for an accurate appraisal of Europe today. *"An impressive job, authoritative, readable . . . some of the clearest maps and diagrams to be found in any text."*—D. W. Meinig, *University of Utah. 1953. 189 ills., maps, tables; 775 pp.* $7.50

Biogeography—*An Ecological Perspective*

Pierre Dansereau, *University of Montreal*

A pioneering study based on world-wide field trips, this book provides a new synthesis of the environmental relationships of living organisms. Designed for senior and graduate courses in geography, botany, and ecology, it analyzes the components of the biogeographic community in terms of their historical setting, their climatic tolerance, their adjustment to habitat and one another, and their genetic makeup. Book applies uniform ecological principles to the study of plants and animals and their societies, achieving an integrated perspective which provides common ground for a penetrating interpretation of environmental complexes. *"Startling depths of insight and breadths of learning."*—THE PROFESSIONAL GEOGRAPHER. *1957. 183 ills., tables; 394 pp.* $7.50

The Geological Evolution of North America

A Regional Approach to Historical Geology

Thomas H. Clark *and* Colin W. Stearn—*both McGill University*

Just published. This basic textbook covers the continent's evolution in terms of its three major structures: the Appalachian and Cordilleran geosynclines, the stable interior, and the Canadian Shield. Throughout, the connection between the structural behavior of the geosynclines, basins, and shelf areas, and the pattern of sediments deposited in them, is stressed. The orogenic history of the Canadian Shield is treated in the light of concepts that have emerged within the past decade. The evolution of life in North America is discussed in a separate section. Important study aids include summaries of the plant and animal kingdoms; a wealth of fine photographs, maps, and diagrams; and annotated bibliographies. *1960. 290 ills.; 418 pp.* $7.50

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GEOGRAPHIC MATERIALS RECEIVED

George W. Hoffman, M. G. Bowden, and Lorrin Kennamer. **Life in Lands Overseas.** The Steck Company, Austin, Texas, 1959. Worktext for Grade 6. Photographs, maps, diagrams, questions and exercises, and table of contents. 164 pages. List 68¢, 51¢ net.

Claude A. Buss. **Southeast Asia and the World Today.** D. Van Nostrand Co., Inc., Princeton, New Jersey, 1959. 189 pages with map, charts, index, and table of contents. An Anvil Original #32. Paperback. $1.25.

Horace Robert Byers. **General Meteorology,** 3rd ed. McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York, 1959. 540 pages with photographs, graphs, charts, diagrams, index, and table of contents. $9.50.

Jacques Nicholas Bellin. **Old Maps of the World.** Set I: North America. Set II: South America. Bloch and Company, 1010 Euclid Building, Room 402, Cleveland 15, Ohio, 1959. Ten maps in each set produced in 1757 and 1753-1757 with table of contents. $2.75 each.

Military Aspects of World Political Geography. Commandant, Air Force ROTC, Maxwell Air Force Base, Alabama, ATTN: Education Division. 1959. 550 pages with maps, photographs, charts, diagrams, index, and table of contents. $4.25.

William E. Powers and Clyde F. Kohn. **Aerial Photo-Interpretation of Landforms and Rural Cultural Features in Glaciated and Coastal Regions.** Northwestern University Studies in Geography No. 3. Northwestern University, Evanston, Illinois, 1959. 111 pages with photographs, maps, list of figures, and table of contents. $3.75.

Zaki Naguib Mahmoud. **The Land and People of Egypt.** J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1959. 127 pages with photographs, index, and table of contents. $2.95.

Erick Berry. **The Land and People of Iceland.** J. B. Lippincott Company, East Washington Square, Philadelphia 5, Pennsylvania, 1959. 126 pages with photographs, index, and table of contents. $2.95.

Bertha S. Dodge. **Plants That Changed The World.** Little, Brown & Company, Boston, Massachusetts, 1959. 183 pages with illustrations, index and table of contents. $3.50.

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The Geological Evolution of North America

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Thomas H. Clark and Colin W. Stearn—both McGill University

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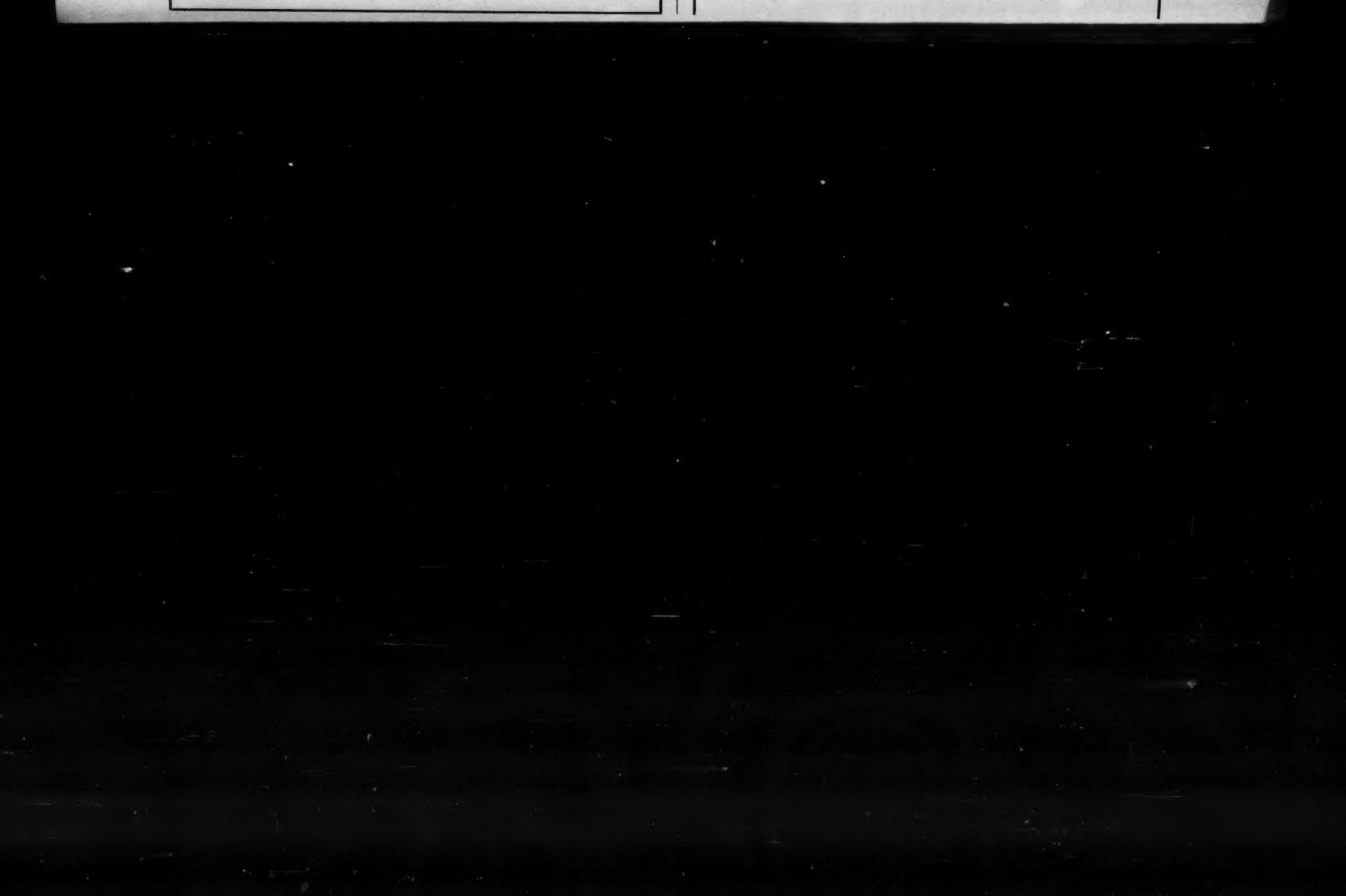

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C. H. B. and Marjorie Quennell. **Everyday Life in Prehistoric Times.** G. P. Putnam's Sons, New York, 1959. 226 pages with illustrations, list of illustrations, table of contents, index, bibliography and preface. $3.50.

Leonard S. and Thomas L. Kenworthy. **Free and Inexpensive Materials on World Affairs.** World Affairs Materials, Brooklyn College, Brooklyn 10, New York, 1959. 73 pages with table of contents. $1.00 (cash), $1.25 (billed).

Monsignor John Paul Haverty. **Course of Study in Geography III-IV-V-VI.** Archdiocese of New York. September, 1959. 61 pages with table of contents, index and bibliography. 47¢.

Patricia Lauber. **All About The Ice Age.** Illustrations by John C. Wonsettler. Random House, New York, 1959. 151 pages with table of contents, foreword, illustrations, and photographs. $1.95.

Philip I. Mitterling. **America In the Antarctic to 1840.** University of Illinois Press, Urbana, Illinois, 1959. 201 pages with table of contents, and index. $5.00.

Harold M. Mayer and Clyde F. Kohn, Eds. **Readings in Urban Geography.** The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Illinois, 1959. 625 pages including table of contents, index, etc. $8.50.

GEOGRAPHIC MATERIALS RECEIVED

Armstrong Sperry. **All About the Jungle.** Random House, New York, 1959. 141 pages with table of contents, foreword and illustrations. $1.95.

Peter Goullart. **Land of the Lamas, Adventures in Secret Tibet.** E. P. Dutton & Company, New York, 1959. 221 pages with table of contents, preface and photographs and a map. $4.00.

Wilfred Thesiger. **Arabian Sands.** E. P. Dutton & Company, New York, 1959. 326 pages with a table of contents, introduction, index and photographs and maps.

Educators Guide to Free Tapes, Scripts and Transcriptions. 6th Annual Edition, Educators Progress Service, Randolph, Wisconsin, 1960. 225 pages including indexes, table of contents. $5.75.

H. E. Mehrens. **The Dawning Space Age.** Civil Air Patrol, Ellington Air Force Base, Texas. 224 pages including preface, forewords, table of contents, appendices and bibliography.

Virginia Haviland. **Favorite Fairy Tales Told in France.** Illus. Roger Duvoisin. Little, Brown & Company, 34 Beacon Street, Boston 6, Massachusetts, 1959. 91 pages with table of contents.

Willis Lindquist. **Alaska, The Forty-Ninth State.** Illus. P. A. Hutchison. Whittlesey House, McGraw-Hill Book Company, Inc., 330 West 42nd Street, New York 36, New York. 111 pages with foreword by Hon. Ernest Gruening, U. S. Senator from Alaska, table of contents, illustrations and index. $3.00.

David I. Blumenstock. **The Ocean of Air.** Rutgers University Press, 30 College Avenue, New Brunswick, New Jersey, 1959. 457 pages including preface, table of contents, illustrations, index and notes. $6.75.

I. A. Langnas. **Dictionary of Discoveries.** Philosophical Library, Inc., 15 East 40th Street, New York 16, New York, 1959. Preface by J. Salwyn Shapiro, 201 pages. $5.00.

Pauline Arnold and Percival White. **America's Biggest Business, Food.** Holiday House, 8 West 13th Street, New York 11, New York, 1959. 338 pages with table of contents, preface, list of illustrations (29), index. $3.95.

John C. Caldwell. **Let's Visit Pakistan.** The John Day Company, Inc., 210 Madison Avenue, New York, New York, 1960. 96 pages with photographs, table of contents, maps and index. $2.95.

International Map of the World on the Millionth Scale (1958). United Nations Department of Economic and Social Affairs, New York, 1959, Columbia University Press, 1959. 103 pages. $1.00.

Edward H. Winter. **Beyond the Mountains of the Moon.** University of Illinois Press, Urbana, Illinois, 1959. 276 pages with table of contents and index. $5.50.

R. H. Greenwood. **Queensland City, Coast and Country.** Macmillan & Company, Ltd. St. Martins Street, London, W. C. 2, 1959. 50 pages including photographs, table of contents.

My First World Atlas. C. S. Hammond & Company, Maplewood, New Jersey, 1959. 48 pages.

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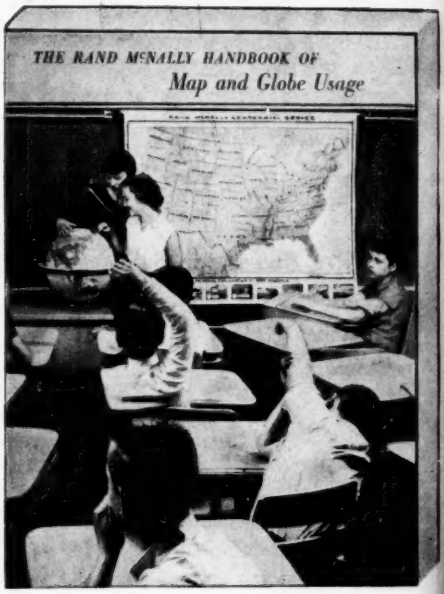

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